

STORM DRAIN CLEANOUT AND SUPPLEMENTAL SOURCE CONTROL EVALUATION

FORMER CROWN CORK AND SEAL FACILITY 10200 NORTH LOMBARD STREET PORTLAND, OREGON

Prepared for Mecox Partners II, LLC URS Job No.: 60394964 ECSI Site: 5864 April 14, 2016



April 14, 2016

Mr. Scott Zecher **Executive Vice President** Mecox Partners II, LLC 417 5th Avenue New York, New York 10016

> Storm Drain Cleanout and Supplemental Source Control Evaluation Former Crown Cork and Seal Facility 10200 North Lombard Street Portland, Oregon URS Job No. 60394964

Dear Mr. Zecher,

This Storm Drain Cleanout and Supplemental Source Control Evaluation (SCE) Report has been prepared by URS Corporation (URS) for the former Crown Cork and Seal facility located in Portland, Oregon. This work was conducted in accordance our proposals to Mecox Partners II, LLC dated September 24, 2015 and January 8, 2016.

URS appreciates the opportunity to assist you on this project. Please do not hesitate to contact us if you have any questions regarding this report or require additional assistance.

Sincerely,

URS Corporation, a Subsidiary of AECOM

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1.0 INTRODUCTION

URS Corporation (URS), a subsidiary of AECOM, was retained by Mecox Partners II, LLC (Mecox) to conduct site investigations and other activities at the former Crown Cork and Seal (Crown) facility (the "site") located at 10200 North Lombard Street in Portland, Oregon (Figure 1) to provide the Oregon Department of Environmental Quality (DEQ) with the information needed to issue a Source Control Decision for the site. The initial phases of source control evaluation at the site were described in the Stormwater Pathway and Dry Well Evaluation (URS 2014b) and the Source Control Evaluation/Voluntary Cleanup Program Report (URS 2015b). These reports recommended permitting or closure of dry wells identified at the site, and removal and offsite disposal of legacy sediment contamination in the storm drain system. This report summarizes the results of the recommended dry well closure/permitting and the storm drain system cleanout, and presents the results of a supplemental source control investigation requested by DEQ subsequent to the review of the initial source control evaluation.

The site is developed with a former metal can manufacturing facility and paved parking areas. The western portion of the property is undeveloped. The subject property was used as a metal can manufacturing facility from 1950 until November 2011. The facility was decommissioned by Crown in 2012. The site is located within the investigation area for the Portland Harbor Superfund Site, although to date no significant pathways for conveyance of stormwater to the Harbor have been identified.

Investigations were completed at the site between 2012 and 2015 to characterize site conditions (URS 2012a, 2012b, 2013, 2014a, 2014b, 2015a, and 2015b). The investigations assessed whether hazardous substances used at the site were present in soil, groundwater, sediment and/or indoor air at concentrations exceeding applicable risk-based concentrations (RBCs) established by DEQ and screening criteria for the Portland Harbor. Mecox entered DEQ's Voluntary Cleanup Program (VCP) in 2013 and has subsequently submitted all reports documenting the site conditions to DEQ for review and comment.

In November 2015, DEQ requested the sampling and analysis of potentially hazardous building materials at the site for lead and polychlorinated biphenyls (PCBs) due to the elevated concentrations of these constituents in the storm drain sediment samples collected in 2015. Following receipt of waste characterization results for sediment removed from the on-site storm drain lines in accordance with recommendations outlined in the Source Control Evaluation/Voluntary Cleanup Program Report (URS 2015b), DEQ also requested sampling and analysis of residual sediment on the roof and asphalt around the perimeter of the main building for lead and PCBs. DEQ did not request a formal work plan for this supplemental source control investigation. The scope of the work and general procedures were outlined in a series of emails between Mr. Jim Orr, DEQ and Mr. James Flynn, AECOM in late 2015 and early 2016 (DEQ 2015b, 2015c, and 2016).

The purpose of this report is to summarize results of previous source control investigation conducted at the site, the status of the dry well closure/permitting activities, and the storm drain system cleanout, and present the results of the recent supplement source control investigation to provide the DEQ with the information it needs to issue a Source Control Decision for the site.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND TOPOGRAPHY

The site is located in Section 2, Township 1 North, Range 1 West; Portland, Multnomah County, Oregon. Topographic coverage of the site vicinity is provided by the U.S. Geological Survey (USGS), Linnton, Oregon, 7.5-minute quadrangle (Figure 1). The elevation in the developed eastern portion of the site is approximately 100 feet above mean sea level (msl). The undeveloped western portion of the site lies at an elevation of about 115 feet msl, and west of that the site elevations drops to about 80 feet msl at the western site boundary (USGS, 1990). The nearest surface water feature is the Willamette River located approximately 1,800 feet northwest of the site, at an elevation of about 15 feet msl.

The site is bounded to the north by rail lines, beyond which is a former Yokohama facility; to the east by North Lombard Street across which are an apartment building, single family residential properties and the Los Prados Event Hall; to the south by single family residential properties; and to the west by rail lines and North Terminal Road, across which is a Port of Portland auto storage lot. Land use in the site vicinity consists primarily of automotive storage facilities and single-family residential properties.

The manufacturing facility building is situated in the eastern portion of site. No other structures are present at the site, with the exception of a storage shed near the former propane above-ground storage tank (AST) area, a water tower, and a small cell phone tower control building adjacent to the water tower. The area developed with buildings totals approximately 240,000 square feet. Approximately half of the property not covered by buildings is paved or developed with a railroad spur, and the other half of the property in the far western portion is undeveloped and densely vegetated.

2.2 SITE HISTORY

The site was developed just prior to 1950, when the Continental Can Company factory and warehouse were constructed (URS 2012a). No significant expansion of the facility building appears to have occurred since the initial development. Prior to 1950, the property was undeveloped and surrounded by residential construction to the south and east. The site was used as a metal can manufacturing facility from 1950 until November 2011. In 2012, Crown had ceased operations at the facility and began decommissioning the manufacturing equipment at facility. Decommissioning was completed in 2013 and the facility has been vacant since that time.

2.3 HYDROGEOLOGIC SETTING

The site is underlain by fill, followed by native fine-grained flood deposits, characterized by sands and silts, separated by clayery layers. These are underlain by the Troutdale Formation, consisting of conglomerate with minor interbeds of sandstone, siltstone, and claystone. Below that is the Sandy River Mudstone. The flood deposits, Troutdale Formation, and Sandy River Mudstone comprise the sedimentary alluvium deposited within the Portland Basin, and are underlain by basement rocks consisting of Columbia River Basalts (Madin, Ma, and Niewendorp 2008).

Investigations at the site confirmed that flood deposits beneath the site are primarily comprised of poorly graded, fine- to coarse-grained, sand and well graded gravels, with varying amounts of silt and clay from the surface to a depth of approximately 100 feet below ground surface (bgs). Fine-grained layers do not appear to be laterally continuous beneath the property. However, sandy deposits were consistently encountered below a depth of approximately 85 feet bgs (URS 2013).

Five groundwater monitoring wells were installed at the site in 2013 (Figure 2). Groundwater beneath the site occurs at a depth of approximately 81 to 84 feet bgs in an unconfined aquifer. The groundwater elevation beneath the site is approximately 10 feet above mean sea level (msl). A groundwater contour map was generated from water level measurements taken at site monitoring wells in April 2015 indicated groundwater flow was to the northwest parallel to and towards the Willamette River, with a hydraulic gradient of approximately 0.003 feet per foot. Based on previous water level measurements in January 2013, the hydraulic gradient appears to change seasonally, potentially in response to stage variations in the Willamette River (URS 2015b).

URS prepared a beneficial water use determination (BWUD) to identify potential groundwater users on or near the site (URS 2015b). Based on the results of the BWUD, a few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located has a connection to the City of Portland (COP) municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water. In addition, the site is not located in a wellhead protection area. Therefore, exposure pathways associated with groundwater ingestion and inhalation from tap water are considered incomplete.

3.0 INITIAL SOURCE CONTROL EVALUATION

In 2014 and 2015, URS completed the initial phases of the source control evaluation for the site. The evaluation was described in detail in the Source Control Evaluation/Voluntary Cleanup Program Report (URS 2015b). The evaluation included a stormwater pathway evaluation, a dry well evaluation and a groundwater contaminant pathway assessment. Field work was completed in accordance with a work plan approved by DEQ (URS, 2015a). A summary of this evaluation is presented below.

3.1 STORMWATER EVALUATION

The stormwater system evalation included review of historic records including site plans, stormwater pollution control plans (SWPCPs), and COP records. URS also reviewed Crown's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 104(e) submittal for the site, and the National Pollution Discharge Elimination System (NPDES) stormwater monitoring records. In addition, URS conducted several site visits to assess the drainage system and conduct sediment sampling. A summary of the stormwater systmem and the sediment investigation is presented below.

3.1.1 Stormwater System

The stormwater infrastructure includes 10 catch basins running along storm drain lines on the north and south sides of the facility. Both storm drain lines discharge to the COP combined sewer located beneath North Lombard Street. Four outfalls (Outfalls 1 through 4) were identified in the 1999 SWPCP (Crown 1999). The outfall locations as depicted in the SWPCP are shown on Figure 3 and described below:

- Outfalls 1 and 2 are described in the 1999 SWPCP (Crown 1999) as culverts that ran under the Union Pacific Rail Spur on the west side of the property and drained onto the adjacent Port of Portland property. Correspondence between Crown and the COP indicate that discharges from these outfalls ceased prior to February 23, 2005 (URS 2014b).
- Outfalls 3 and 4 are connections to the COP municipal combined sewer system. The
 combined sewer in this area drains to Combined Sewer Overflow (CSO) diversion
 manhole. Flow at the CSO diversion is directed to the Columbia Boulevard Treatment
 Plant except during CSO events when stormwater in this line would discharge to the
 Columbia Slough (URS 2014b).

The Crown facility had coverage under a 1200-L NPDES Permit from at least 1993 until 1997 when coverage was granted under a 1200-Z NPDES permit. Crown maintained coverage under the 1200-Z permit until 2005. Permit benchmarks were established in the 1200-Z permit for oil and grease, metals (copper, lead and zinc), total suspended solids, and pH. These benchmarks were never exceeded. From 1999 to 2004, Crown exercised a monitoring waiver based on meeting permit benchmarks for a continuous 24-month period. No Exposure Certifications (NECs), indicating that no industrial activities or stored materials are exposed to rainfall or stormwater runoff, were issued for the site by DEO in 2005 and 2010 (URS 2014b).

URS made several site visits during the summer of 2014 and winter of 2015 to compare historical records with current site conditions. Below is a synopsis of conclusions drawn from these visits regarding stormwater runoff and outfalls at the facility:

- Former Outfall 1 historically drained the mostly undeveloped northwestern portion of the site. The only development in this area is the rail spur that was used during a portion of Crown's historic operations. URS was not able to confirm the presence of the Outfall 1 culvert daylighting on the hillslope at the west side of the property.
- The 1999 SWPCP identified an inlet to Outfall 1. URS inspected this area and observed a feature referred to subsequently as the Rail Spur Sump (Figure 3). The sump was almost completely filled with debris. URS removed the debris and observed a small amount of sediment and standing water in the sump (about 6 to 8 inches of standing water). The bottom of the sump is approximately 4 feet bgs. Outlet pipes were not observed above the level of the standing water, and the presence of standing water suggested that the sump has no outlet.
- Historical site drawings show an "overflow catch basin" associated with former Outfall 2 (URS 2014b). URS observed this overflow catch basin in a densely vegetated area just east of the rail spur (Figure 3). The inlet to the catch basin is approximately three feet above ground surface, and therefore it is not possible for stormwater to enter the catch basin without significant ponding of surface water in this area. URS was not able to confirm the presence of the Outfall 2 culvert daylighting on the hillslope at the west side of the property.
- URS was onsite during a rain event on September 24, 2014 to observe stormwater runoff patterns along the railroad spur. Precipitation appeared to infiltrate through the permeable ballast material on the rail spur and no runoff in this area was evident. Stormwater runoff from all paved areas of the site was observed to drain to the catch basins as indicated on Figure 3. The runoff then flows eastward in the storm drain lines until it connects with the COP combined sewer system at the locations of Outfalls 3 and 4.
- Roof drains are constructed along the north and south sides of the facility building and tie into the north and south storm drain lines that discharge at Outfalls 3 and 4.

3.1.2 Sediment Investigation

In 2015, discrete sediment samples were collected from the rail spur sump and the overflow catch basin. Composite sediment samples were collected from the storm drain lines located on the north (North Line) and south (South Line) sides of the building. The sediment analytical results are summarized on Table 1. The results were screened against DEQ's Catch Basin Data Screening Values and Knee Chart Values (DEQ 2010), Preliminary Remediation Goals (PRGs) associated with the Portland Harbor Superfund Site (DEQ 2015), and DEQ's Regional Default Background Concentrations for Metals in Soil (DEQ 2013). The "knee" value was approximated from the charts and included as screening criteria on Table 1. Similarly, if a detected concentration was lower than the Regional Default Background Concentration, then the Background Concentration was selected as the screening criteria.

3.1.2.1 Rail Spur Sump Sediment Sampling

Sediment samples were collected from the Rail Spur Sump on May 5, 2015. The sample was analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals, volatile organic compounds (VOCs), polyaromatic hydrocarbons (PAHs), PCB Aroclors, NWTPH-Dx, NWTPH-Gx, and phthalates. All detected concentrations were below screening criteria in the Rail Spur Sump with the exception of indeno(1,2,3-cd)pyrene, which exceeded the DEQ Catch Basin Screening Value (Table 1).

3.1.2.2 Overflow Catch Basin Sediment Sampling

Sediment samples were collected from the Overflow Catch Basin on April 17 and June 10, 2015. The Overflow Catch Basin samples were analyzed for RCRA 8 metals, VOCs, PAHs, PCB Aroclors, NWTPH-Dx, NWTPH-Gx, and/or phthalates. All detected concentrations were below screening criteria with the exception of indeno(1,2,3-cd)pyrene, which exceeded the DEQ Catch Basin Screening Value (Table 1).

3.1.2.3 Onsite Stormwater System Sampling

None of the catch basins on the South Line contained any sediment, nor did the manhole adjacent to CB-2. However, enough sediment volume had accumulated in the manhole adjacent to CB-1 and the manhole adjacent to CB-2 to collect a composite sample. The composite points from the South Line sediment sample are depicted on Figure 3.

No sediment was observed in the North Line manholes but enough volume had accumulated in the catch basins to collect a composite. A composite sample was collected from catch basins CB-6, CB-7, and CB-8. The composite points from the North Line sediment sample are depicted on Figure 3.

The sediment samples were collected on June 10, 2015. The composite samples were analyzed for RCRA 8 metals, VOCs, PAHs, PCB Aroclors, NWTPH-Dx, NWTPH-Gx, and phthalates and the results are summarized on Table 1. The exceedances of the screening criteria are summarized below:

- The following chemicals exceeded the DEQ Catch Basin Screening Value: arsenic, cadmium, lead, mercury, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, PCB Aroclor 1254, total PCBs, and di-n-butyl phthalate.
- The following chemicals exceeded the Portland Harbor Superfund Site PRGs: lead, mercury, and total PCBs.
- The following chemicals exceeded the DEQ Regional Default Background Concentrations for Metals in Soil: arsenic, cadmium, lead, and mercury.
- The following chemicals exceeded the Knee Chart Value: arsenic, cadmium, lead, mercury, total PAHs, and total PCBs.

Based on the elevated concentrations detected in the sediment, URS recommended that legacy contamination in stormwater sediment should be removed by flushing or jetting the system. Water and sediment should be collected by a vactor truck and disposed of at a permitted disposal facility.

3.1.3 Dry Well Investigation

Documents referencing several drywells were identified during URS' review of site records. The following is a summary of suspected or known dry wells at the site:

- A 1950 COP plumbing inspection card indicates that five floor drains in the drum storage area discharged to a drywell. The former drywell location (HDW-3) is depicted on Figure 3. An apparent former floor drain was observed in the Drum Room and it appears to have been sealed with grout. There was visual no evidence of the drywell at the location indicated on the COP plumbing inspection card.
- Roof drain drywells are also shown on a 1974 COP plumbing inspection card east of the building on the front lawn. An undated, but apparently recent facility drawing indicates that the roof drains in this area were tied into the 12-inch storm drain on the north side of the building. Slight topographical depressions were observed on the lawn in the areas where these two roof drain drywells (HDW-1 and HDW-2) are shown (Figure 3). URS dug down approximately 2 feet in these areas to look for a manhole lid or other evidence that would indicate that these drywells are still in-place, but nothing was found. These roof drain dry wells do not appear to be present on site.
- A drywell (DW-1) shown on a 1975 COP plumbing inspection card was located in the facility's northeast parking lot, near catch basin CB-10 (Figure 3). URS conducted a video camera survey at CB-10 and confirmed that this dry well (DW-1) is connected to catch basin CB-10. The drywell is offset 12 feet to the northwest from CB-10 and is approximately 20 feet deep.
- A schematic of a roof drain drywell servicing the cell tower building was located in the COP files. URS confirmed the presence of one roof drain drywell (DW-2) associated with the cell tower building on the southern portion of the site (Figure 3).
- The Phase II Environmental Site Assessment (URS 2012b) refers to a suspected drywell on the south side of the facility near catch basin CB-3. URS opened the lid of the suspected drywell during the August 21, 2014 site visit and confirmed that the feature was in fact a storm sewer manhole.

The DEQ UIC database includes one entry for this facility. UIC number 14516 represents two dry wells, which are both classified as 5D2 (stormwater only). COP Bureau of Environmental Services reported the existence of these dry wells to DEQ, but they have not been registered in the UIC database. The dry wells are depicted as DW-1 and DW-2 on Figure 3.

URS recommended the dry well DW-1 be rule-authorized. Dry well DW-2 is a roof drain only dry well and is exempt from rule authorization.

3.1.4 Historical Dry Well HDW-3 Investigation

URS installed one soil boring (boring HDW-3A) in the area of HDW-3 on April 3, 2015. During the installation of HDW-3A, a subsurface void was observed between 3 and 9 feet below ground surface (bgs). Soils encountered at the bottom of the void exhibited a slight chemical odor and an elevated photoioization detector (PID) reading. Soil samples were collected at depths of 9 and 16 feet bgs and analyzed for VOCs, TPH-Dx, TPH-Gx, PAHs, phthalates, PCBs and/or metals.

Given the observed odor and the elevated PID readings in the HDW-3A boring, an additional boring (HDW-3B) was installed approximately 10 feet to the west (Figure 3). A slight chemical odor was noted at 12 feet bgs, but there was no elevated PID reading. Samples were collected from this boring at 12 and 18 feet bgs, and analyzed for VOCs, TPH-Dx, and TPH-Gx.

The analytical results from the two soil borings were screened against the DEQ RBCs for Direct Contact (Construction and Excavation Worker scenarios), Volatilization to Outdoor Air (Occupational scenario), and Vapor Intrusion into Buildings (Occupational scenario). All detected concentrations were below screening criteria with the exception of TPH-Gx in the HDW-3A sample at 9 feet bgs, which exceeded the Direct Contact RBC (Construction Worker scenario). The lead concentration was above background for the Portland Basin, but below applicable RBCs.

URS recommended that the void encountered during the drilling of boring HDW-3A should be further assessed using a geophysical survey and/or a backhoe to determine whether the void is associated with former dry well HDW-3. If the presence of a dry well is confirmed, it should be decommissioned in accordance with applicable regulations. These recommended activities were completed and are described in Section 4.0 below.

3.2 GROUNDWATER PATHWAY

Chemical transport modeling was used to assess whether downgradient groundwater concentrations at potential surface water discharge points in the Portland Harbor would be above applicable screening level values (URS 2015b). The modeling was completed using the Microsoft Excel-based BIOCHLOR (EPA 2002) and BIOSCREEN (EPA 1997) two-dimensional advective transport programs. Both models simulate remediation through natural attenuation. In order to provide conservative estimates, no decay was used. The output assumes advection, dispersion, and both scenarios with and without adsorption (most conservative). The adsorption parameter used in the model was based on an organic carbon (Foc) value that was 25% of published values and is also considered conservative.

All site chemicals of interest in detected in groundwater samples collected in 2015 at concentrations in exceedance of applicable screening level values (SLVs) are considered contaminants of concern (COCs) and were modeled. The 2015 groundwater analytical results and SLVs are summarized in Table 2. The groundwater COCs are:

- Arsenic (total)
- Benzo(a)anthracene
- Chrysene
- Bis(2-ethylhexyl)phthalate (BEHP)
- 1,1–Dichloroethene (1,1-DCE)
- Tetrachloroethene (PCE)

Lithologies observed during monitoring well construction, in conjunction with observed hydraulic gradients, and groundwater analytical data from April 2015 were used as inputs along with appropriate literature values for dispersion and adsorption terms. The model input parameters and results are summarized in Table 3.

The model output concentrations were compared to SLVs based on EPA Maximum Contaminant Levels (MCL), Portland Harbor specific fish consumption rate, and the Portland Harbor PRG for Migration of Contaminated Groundwater. The results indicated no exceedances of any SLVs at the river, 1,800 feet from MW-4. The longest model-estimated transport distance reached before declining to below the screening criteria was 1,000 feet for arsenic, assuming the shallow gradient from the site wells and no adsorption. Therefore, transport of constituents detected in groundwater at the site does not appear to have a significant potential to impact to the Willamette River or any other local water body downgradient of the facility.

Analytical groundwater data from a 1999 remedial investigation conducted on the Port of Portland Terminal 4 (T-4) site (Hart Crowser 1999), located adjacent to the west of the Crown site, were reviewed to determine if there are any potential impacts from groundwater COCs from upgradient sources. The analytical data for T-4 upgradient monitoring wells (MW-4 through MW-7) were non-detect for all PAH constituents. None of the T-4 upgradient wells were analyzed for VOCs, but two of the downgradient monitoring wells (MW-13 and MW-18) were analyzed for VOCs. No COCs at the Crown site were detected. The absence of Crown COCs in groundwater samples from the T-4 site is an additional line of evidence that site COCs in groundwater are attenuating prior to discharge to the Willamette River (URS 2015b).

4.0 DRY WELL CLOSURE AND RULE AUTHORIZATION

4.1 HISTORIC DRY WELL HDW-3 CLOSURE

An excavation completed in the vicinity of HDW-3 in October 2015, using a mini-excavator, exposed a round, underground vault, approximately 7 feet in diameter, constructed of brick and mortar. The top of the vault was at 2 feet bgs. The bottom of the vault appeared to be native material, and was encountered at 9 feet bgs. The bottom of the vault appeared to be dry. An eight-inch-diameter pipe was connected to the vault and appeared to originate from the building. No other pipes were observed to be connected to the vault. The excavation was then secured while a plan was developed for closure of the dry well.

HDW-3 was situated between the building and an electrical substation and there was not enough room to safely remove the UIC vault from the excavation. It was decided that the dry well would be closed in place and a dry well closure plan was submitted to DEQ for review (URS 2015c). The plan was approved by DEQ in an email dated January 14, 2016 (Appendix A). The plan included the following steps:

- Excavation and stockpiling of the soil overburden from above the UIC.
- Backfilling of the UIC vault with controlled density fill (CDF).
- Backfilling of the excavation with the stockpiled overburden soil.

HDW-3 was filled with CDF on February 5, 2016. The vault was filled to the top of the UIC with approximately 9 cubic yards of CDF. A report documenting the dry well closure was submitted to DEQ in March 2016 (URS 2016).

4.2 DRY WELL DW-1 RULE AUTHORIZATION

A Class V Authorization by Rule application was submitted to DEQ for dry well DW-1 in October 2015. DEQ approved rule authorization of DW-1 (DEQ UIC ID 14516-1) in an email dated January 14, 2016. The application, stormwater management plan, email approval from DEQ are included in Appendix A.

5.0 STORM DRAIN SYSTEM CLEAN OUT

Removal and off-site disposal of the sediment within the storm drain system, catch basins and sumps located at the site was recommended in the Source Control Evaluation/Voluntary Cleanup Program Report (URS 2015b). The system clean out and waste disposal activities are described below.

5.1 SYSTEM CLEANOUT

On October 15, 2015 onsite storm drain infrastructure was cleaned out using a high-pressure jet rod and vacuum truck by Cowlitz Clean Sweep, a division of the PNE Corporation. Jet rodding uses a specialized nozzle to scour the walls of the storm drain with a high pressure stream of water to remove built up debris or grease. The jet rod was inserted into each catch basin and manhole onsite to access the adjacent storm drain piping. At the same time a vacuum was applied to the same catch basin or manhole to retrieve the clean out water and debris. The jet was advanced towards the adjacent onsite manholes and towards the manholes located in the right-of-way in North Lombard Street until both the north and south onsite storm drain lines had been cleaned out. An estimated 770 feet of storm drain line was cleaned out. Any accumulated sediment and debris in these sections of storm drain piping were flushed to the vacuum truck.

In addition to the storm drain lines, all site catch basins were cleaned out using the boom on the vacuum truck. The Rail Spur Sump was also cleaned out using the boom on the vacuum truck. The jet rod was inserted into the only pipe connected to the Rail Spur Sump; however, an obstruction approximately 2 feet into the pipe indicated that it was plugged. Due to access limitations, the Overflow Catch Basin was cleaned out by hand.

Sediment collected in the vacuum truck was separated from the clean out water, combined with the sediment removed from the Overflow Catch Basin and the Rail Spur Sump in three (3) 55-gallon drums and stored onsite pending analysis. A total of 1,884 pounds of solids of were cleaned out of the storm drains, catch basins, and sumps.

Clean-out water collected in the vacuum truck was transferred to a 21,000-gallon storage tank and stored onsite pending analysis of the water. Approximately 2,500 gallons of clean out water was collected.

5.2 WASTE DISPOSAL

A composite sample (Storm Sewer Cleanout) was collected from the three sediment drums on October 26, 2015 at the request of DEQ. The sample was analyzed for RCRA 8 metals by EPA Method 6020 and PCBs by EPA Method 8082. The analytical results for the composite sample are shown on Table 1. The results for the sediment removed from the drain lines was similar to the catch basin composite sample results collected in June 2015, with SLV exceedances for several metals, PCB Aroclor 1254, and total PCBs.

Based on the presence of chlorinated volatile organic compounds in the sediments samples collected from the storm drain line in 2015 (Table 1) and the results of toxicity characteristic leaching test for lead, the wastes were managed as hazardous wastes. Laboratory analytical reports, waste profiles, and manifests for the cleanout water and sediment are attached as Appendix B. The clean-out water was treated at the Burlington Environmental Water Treatment Facility, in Tacoma, Washington, prior to discharge to the sanitary sewer. The sediments were treated of via incineration at Ross Environmental Services, in Elyria, Ohio.

6.0 SUPPLEMENTAL SOURCE CONTROL INVESTIGATION

At the request of DEQ, a supplemental source investigation was conducted at the site to identify potential sources of lead and PCBs detected in sediment samples collected from the onsite storm drain system in 2015. The investigation included sampling and analysis of potentially hazardous building materials, sediment accumulated on the roof of the building, and asphalt between the building and the storm drain lines. The scope of the work and general procedures were outlined in a series of emails between Mr. Jim Orr, DEQ and Mr. James Flynn, AECOM in late 2015 and early 2016 (DEQ 2015b, 2015c and 2016). The sampling methods, samples locations and analytical results are described below.

6.1 HAZARDOUS BUILDING MATERIALS ASSESSMENT

Non-destructive, exterior building material sampling was conducted on January 20 and February 11, 2016. Paint chip samples were collected by trained Oregon Health Authority Lead Based-Paint Inspectors. Nine different paint colors were identified on the exterior of the building. The condition of the painted surfaces ranged from good to extremely poor. Good is defined as smaller areas with slight cracking of the paint. Poor condition is defined as large areas of bubbling, flaking and peeling of the paint, with exposed substrate visible. The exposed substrate was wood, metal, or cementitious material. Paint chip samples taken covered an approximate two-inch by two-inch area and were chosen as representative of that paint color and layer. Where variations in the color occurred or more than one layer was represented, more than one sample was collected. Twenty-seven paint chip samples were collected. All paint samples were analyzed for lead by EPA Method 7000B by NVL Labs of Seattle, Washington.

In addition to the paint samples, 13 samples were collected for PCB analysis from the building exterior and roof. Samples were collected from caulking, door seals, window glaze, seals and mastic, and tile glazing. Samples were collected from deteriorated areas, minimizing destructive sampling. Glazing samples were collected from pieces of the facade that had fallen off of the building brickwork. Samples taken were chosen as representative of each material to be analyzed for PCBs by EPA Method 8082 at NVL Labs in Seattle, Washington.

Building material samples were collected by scraping or removing the material with a knife that was decontaminated between sample locations by washing in a non-phosphate detergent solution. Samples of loose glazing were collected by hand. The URS sampler donned clean nitrile gloves for the collection of each sample. Exterior building material sample locations are depicted on Figures 4 and 5. A photo log associated with the paint sampling is included as Appendix C. Field notes from the material sampling are included in Appendix D. Analytical laboratory reports are included in Appendix E. Building material analytical results for lead and PCBs are summarized in Tables 4 and 5, respectively.

Lead was detected above the reporting limit in all but two of the paint samples collected. Eleven samples exhibited lead concentrations greater than 10,000 milligrams per kilogram (mg/kg), with a maximum detected lead concentration of 33,000 mg/kg. Seven of these eleven samples consisted of the same green paint that covers many of the window sills and frames around the facility, as

well as many of the roll-up doors and almost the entire southwestern corner of the facade. For comparison, lead was detected in storm sewer sediments from the south storm drain at 490 mg/kg and in the north storm drain at 8,900 mg/kg.

PCBs (up to 0.21 mg/kg) were detecteded in three samples from the building roof (PB1-01, PB5-01, PB6-01), and three samples from the building exterior (PCB-1, PCB-4, and PCB-7). All other PCB samples were non-detect. The highest PCB results were detected in sealers (PCB-7: 0.11 mg/kg, Aroclor 1260; PB5-01: 0.15 mg/kg, Aroclor 1248), and mastic (PB6-01: 0.21 mg/kg, Aroclor 1248).

For comparison, PCBs were detected in storm sewer sediments from the south storm drain at 0.144 mg/kg, and in the north storm drain at 0.71 mg/kg. PCBs in both sediment samples were primarily composed of Aroclor 1254, with subordinate amounts of Aroclor 1016.

6.2 ROOF SEDIMENT ASSESSMENT

Five sediment samples were collected from the building rooftop on January 20, 2016. The locations of the roof sediment samples (S-1 through S-5) are depicted on Figure 5. Much of the building rooftop is covered with a membrane system. The membrane appears to be composed of either synthetic rubber or thermoplastic (PVC or similar). The areas of the rooftop not covered with a membrane are covered with pea gravel. No sediment accumulation was observed on the pea gravel-covered areas of the rooftop. Roof sediment samples were collected directly into laboratory supplied containers. The URS sampler donned clean nitrile gloves for the collection of each sample. The five sediment samples were placed in a chilled cooler and submitted to TestAmerica Laboratories in Portland, Oregon. The samples were analyzed for lead by EPA Method 6020 and PCBs by EPA Method 8082. The roof sediment results are summarized on Table 6. Laboratory analytical reports are included in Appendix E.

Lead concentrations in roof sediment samples S-2 and S-3 were elevated above the other samples (1,500 mg/kg and 2,400 mg/kg, respectively). Both of these samples were collected from the northwestern portion of the rooftop, above the former rail loading area. For comparison, lead was detected in storm sewer sediments from the south storm drain at 490 mg/kg, and in the north storm drain at 8,900 mg/kg.

PCB Aroclor 1254 was detected at low levels (< 0.1 mg/kg) in four of the five roof sediment samples. Aroclor 1254 was a common component of polyvinyl chloride (PVC) and chlorinated rubber. It is possible that the PCBs detected in these samples were derived from the roofing membrane. For comparison, PCBs were detected in storm sewer sediments from the south storm drain at 0.144 mg/kg, and in the north storm drain at 0.71 mg/kg. PCBs in both storm drain sediment samples were primarily composed of Aroclor 1254, with subordinate amounts of Aroclor 1016.

6.3 ASPHALT AND RAILROAD BALLAST ASSESSMENT

On February 9, 2016, URS collected composite asphalt samples from the paved areas immediately adjacent to the north and south sides of the facility building. Thirty sub-samples were collected in a

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¹ Fact Sheet: Sources of Polychlorinated Biphenyls. Oregon DEQ. August 6, 2003.

grid on each side of the building. Asphalt in the areas sampled was generally in poor condition. The grids were established between the building and the storm drains/catch basins on north and south sides of the building, as depicted on Figures 6 and 7, respectively.

A roto-hammer drill with an approximately 1-inch diameter bit was used to loosen near surface asphalt at each point on the sampling grid (30 sub-sample locations). Approximately 1 ounce of asphalt was collected at each location. The roto-hammer drill bit and other sampling equipment was decontaminated prior to the commencement of sampling at each grid.

A field duplicate was collected from the north grid. The duplicate was prepared by collecting approximately double the sample volume at each sub-sample location on the grid. The sample were composited in the field in a stainless steel bowl and aliquots of the composited material were distributed into sample containers for the parent sample and field duplicate. The field duplicate was submitted to the laboratory as a blind sample. The asphalt samples were sent to TestAmerica Laboratories, in Portland, Oregon. The asphalt samples were analyzed for lead by EPA Method 6020 and PCBs by EPA Method 8082. A tetrabutylammonium sulfite (TBA) cleanup was used to reduce matrix interferences caused by sulfur.

Analytical results from the asphalt sampling are summarized on Table 7. Laboratory analytical reports are included in Appendix E. The lead concentration in the North Lot Composite was significantly higher than the lead concentration in the South Lot Composite (1,100 mg/kg vs. 81mg/kg). For comparison, lead was detected in storm sewer sediments from the south storm drain at 490 mg/kg, and in the north storm drain at 8,900 mg/kg.

PCB Aroclor 1248 was detected in the North Lot Composite at a concentration of 0.160 mg/kg (0.35 mg/kg in field duplicate); PCBs were not detected in the South Lot Composite. For comparison, PCBs were detected in storm sewer sediments from the north storm drain at 0.71 mg/kg, and in the south storm drain at 0.144 mg/kg. PCBs in both storm drain sediment samples were primarily composed of Aroclor 1254, with subordinate amounts of Aroclor 1016.

Although not requested by DEQ, URS collected a sample of the railroad ballast material on the north side of the facility building. The location of this sample is shown on Figure 6. URS collected a sample of this material resembled slag (a by-product of metal smelting). The ballast sample was analyzed for lead by EPA Method 6020.

The analytical result for the railroad ballast sample is shown on Table 7. Lead was detected in the sample at 2.1 mg/kg. For comparison, lead was detected in storm sewer sediments from the north storm drain at 8,900 mg/kg. It does not appear that the railroad ballast is a significant source of lead to the north storm drain.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The Source Control Evaluation for the on-site stormwater conveyance systems was conducted in accordance with DEQ guidance and the Portland Harbor Joint Source Control Strategy. The following is a summary of the conclusions resulting from the evaluation:

- Operations at the can manufacturing facility ceased in 2011 and the facility was decommissioned in 2012. There are no current operations at the site that could be considered sources of stormwater contamination.
- Correspondence between Crown and the COP indicate that discharges from outfalls OF-2 (Overflow Catch Basin) and OF-1 (Rail Spur Sump) ceased prior to February 23, 2005. The inspection of OF-2 confirmed the pathway is incomplete except possibly under extremely wet conditions when extensive ponding of water could occur near OF-2. OF-2 appears to drain only the undeveloped portion of the site. OF-1, which historically received runoff from the vicinity of the rail spur appears to have been plugged, thus eliminating this pathway. All other areas of historic operations drain to outfalls OF-3 and OF-4.
- Stormwater discharge from outfalls OF-3 and OF-4 is conveyed to the Columbia Boulevard Treatment Plant except during CSO events when stormwater in this line could discharge to the Columbia Slough.
- A thorough cleaning of the storm drain system, including catch basins and sumps, was completed in October 2015. A small quantity of legacy contaminated sediment (three 55-gallons drums) was removed from the stormwater drainage system. There is no record of sediment being removed from these lines previously. The small amount of sediment contained within the lines after decades of operations at the site suggests that large quantities of sediment were not historically discharged to the storm drain system and it is unlikely that a significant quantity of sediment from the site would have reached the Columbia River or Columbia Slough during CSO events.
- Concentrations of PCBs detected in the storm drain sediments (up to 0.71 mg/kg) were
 higher than the concentrations detected in building materials (up to 0.21 mg/kg), roof
 sediment samples (up to 0.077 mg/kg) or the composite asphalt samples (up to 0.35 mg/kg)
 collected at the site. This suggests that PCB concentrations detected in the sediment
 samples are related at least in part to historic operations rather than solely to current site
 conditions.
- Due to the relatively low concentrations of PCBs and type of PCB Aroclors detected in the building materials, and the relatively small quantity of materials containing PCBs at the site, the building materials do not appear to represent a significant source of PCBs to the storm drain system. However, due to the poor condition of the asphalt, elevated concentrations of PCBs associated with the asphalt could enter the storm drain system on the north side of the building via runoff to catch basins. Similarly, sediment on the roof

containing low levels of PCBs could enter the storm drain system via the downspouts that are connected to the storm drain system.

- Concentrations of lead were elevated in roof sediment, paint, and asphalt samples. The
 detected concentrations of lead in paint samples were potentially high enough to have
 caused the elevated detections in the storm drain sediment, roof sediment, and asphalt
 samples; however, other sources associated with historic operations could also be
 responsible for the elevated concentrations of lead in sediment and asphalt.
- Due to the poor condition of the paint and the asphalt, elevated concentrations of lead from these materials could enter the storm drain system via runoff to catch basins. Similarly, sediment on the roof containing elevated concentrations of lead could enter the storm drain system via the downspouts that are connected to the storm drain system.
- A sample of railroad ballast was collected and analyzed for lead. Lead was detected in the sample at a concentration orders of magnitude less than in the sediment samples collected from the north storm drain. Therefore, the railroad ballast does not appear to be a significant source of lead to the north storm drain.
- The groundwater to surface water pathway is complete, but BIOCHLOR and BIOSCREEN
 modeling together with the BWUD indicate that site COCs are not likely to reach the
 Willamette River at concentrations exceeding screening levels nor affect beneficial uses of
 water.

7.2 **RECOMMENDATIONS**

To eliminate or minimize the discharge of elevated concentrations of lead and PCBs to the onsite stormwater system, URS recommends the following:

- Collect the sediment on the roof of the main building using either dry or wet methods; characterize the waste; and dispose at a permitted treatment or disposal facility.
- Cap the asphalt on the north side of the building, between the building and the catch basins, with seal coat or another layer of asphalt and manage the asphalt in-place under a contaminated media management plan.
- Stabilize the painted surfaces of the building by manually scraping off loose and flaking paint; collect and characterize the waste paint and dispose at a permitted treatment or disposal facility; and recoat the buildings with a non-lead based coating.

In addition, URS recommends filling the Railroad Sump with controlled density fill to prevent accumulation of debris in the sump and eliminate the possibility of discharge out of the sump through the apparently plugged pipe.

8.0 LIMITATIONS

This report has been prepared for the exclusive use of Mecox Partners II, LLC. It is intended to provide an understanding of the potential for the property evaluated in this report to have been affected by the release or presence of petroleum products or hazardous materials or wastes. The conclusions in this report are based upon data and information reviewed as outlined herein and obtained by URS personnel and our subcontractors. The interpretations and conclusions contained in this report are based on the expertise and experience of URS in conducting similar assessments and current regulations. In evaluating the subject property, URS has also relied upon representations and information furnished by others with respect to existing operations and property conditions and the historic uses of the property to the extent that the information obtained has not been contradicted by data obtained from other sources. Accordingly, URS accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations, or fraudulent information provided by other sources.

URS' objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services for a national consulting firm at the time these services are provided. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liability on a particular site. No expressed or implied representation or warranty is included or intended in our reports except that our work was performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession. No third party shall have the right to rely on our opinions rendered in connection with the services or in this document without our written consent.

9.0 REFERENCES

- Crown Cork & Seal (Crown), 1999. Stormwater Pollution Control Plan, 10200 N. Lombard St., Portland, Oregon. February.
- Hart Crowser, 1999. Remedial Investigation Report Terminal 4, Slip 3 Upland, Port of Portland. March 2.
- Madin, I.P, Ma, L., and Niewendorp, C.A, 2008. Preliminary Geologic Map of the Linnton 7.5' Quadrangle, Multnomah and Washington Counties, Oregon. Oregon Department of Geology and Mineral Industries Open-File Report O-08-06.

Oregon Department of Environmental Quality (DEQ), 2010. Guidance for Evaluating the

Stormwater Pathway at Upland Sites, Appendix D: Stormwater Data Reporting and Screening Table. , 2012a. Risk Based Concentrations for Individual Chemicals. June 7. _____, 2015a. Email from Jim Orr (DEQ) to Jim Flynn (URS) regarding Screening Level PRGs from EPA. June 9. _____, 2015b. Email from Jim Orr (DEQ) to Jim Flynn (URS) approving plan for sampling building materials. November 9. , 2015c. Email from Jim Orr (DEQ) to Jim Flynn (URS) approving plan for collection and analysis of roof sediment and asphalt. December 29. _____, 2016. Email from Jim Orr (DEQ) to Jim Flynn (URS) approving plan asphalt sampling plan asphalt samples. January 22. U. S. Environmental Protection Agency (EPA), 1997. http://www2.epa.gov/waterresearch/bioscreen-natural-attenuation-decision-support-system. _____, 2002. http://www2.epa.gov/water-research/biochlor-natural-attenuation-decision-supportsystem. U.S. Geological Survey (USGS), 1990. 7.5-Minute Series Topographical Map, 1:24,000 scale, Linnton, Oregon, 1990. URS Corporation (URS), 2012a. Draft Phase I Environmental Site Assessment, Cannery Property, 10200 North Lombard Street, Portland, Oregon. April 27.

_____, 2012b. Phase II Environmental Site Assessment, Former Crown Cork and Seal Facility,

_____, 2013. Groundwater Investigation Report, Former Crown Cork and Seal Facility, 10200

10200 North Lombard Street, Portland, Oregon. November 6.

North Lombard Street, Portland, Oregon. February 13.

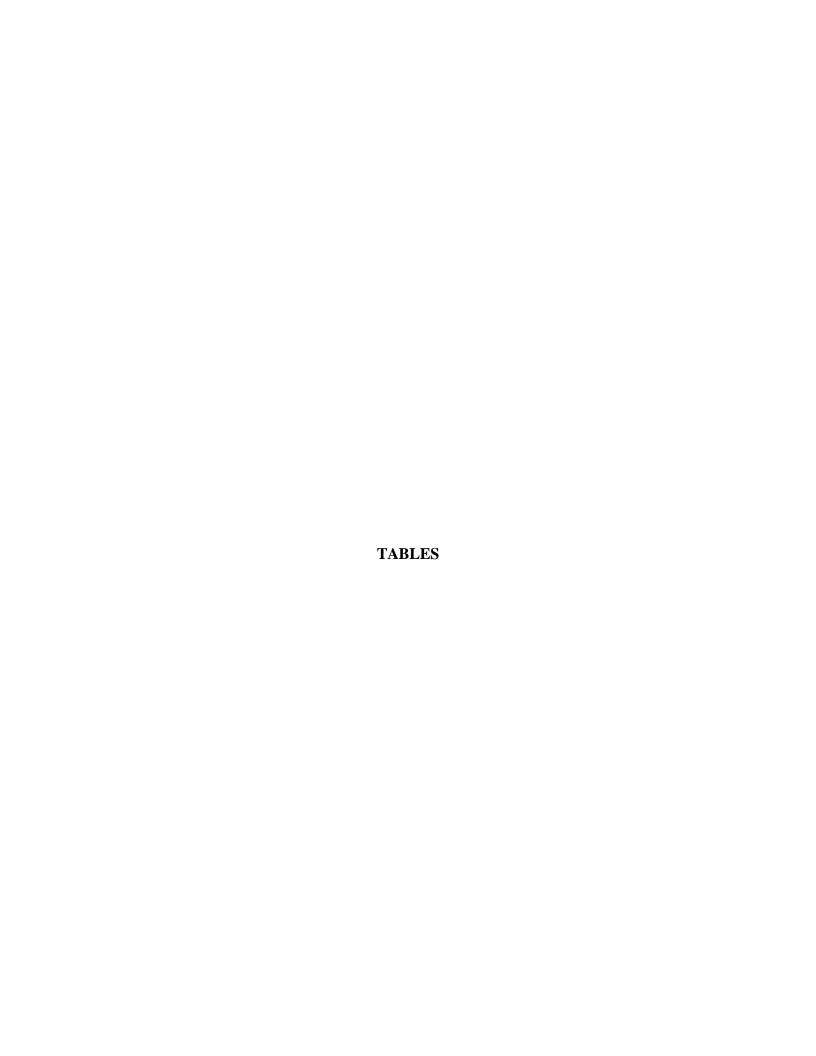


Table 1
Storm Drain Sediment Analytical Results
Crown Cork and Seal
Portland, Oregon

	5	Sediment Sample Re	sults (mg/kg)					Portland Harl	oor PRG		
			, , ,			Storm Sewer	1				
				OF-2 Overflow	OF-2 Overflow	Cleanout				d (2)	
Site ID	Rail Spur Sump	OF-3	OF-4	Catch Basin	Catch Basin	Composite	DEQ Catch	RAO 5	RAO 6	ů	
							Basin			Background	Knee-Chart
							Screening	Direct	Biota	ıck	"Knee"
Sample Date	5/5/2015	6/10/2015	6/10/2015	6/10/2015	4/17/2015	10/26/2015	Value/JSCS (1)	Contact/Ingestion	Ingestion	Ba	value (3)
Metals ⁽⁴⁾											
Arsenic	0.801	14.0	6.50	-	6.70	9.4	7.0	-	-	8.8	10
Barium	36.8	130.0	89.0	-	140	190	-	-	-	790	-
Cadmium	1.85	0.020 U	2.10	-	0.320	4.1 B	1.0	5.0	_	0.63	2.0
Chromium	0.130	120.0	45.0	-	18.0	63	111	-	-	76	125
Lead	2.70	8900.0	490.0	-	18.0	4800	17	128	-	79	200
Mercury	0.0398	1.40	0.08	0.0410	- 4 20	2.2	0.070	1.1	-	0.23	0.30
Selenium	1.17	1.00	1.20	-	1.30	1.2 J	2.0	-	-	0.71	-
Silver Petroleum Hydrocarbons	0.108 U	1.90	0.23	-	0.0820 J	5.8	5.0	<u> </u>	-	0.82	0.60
	3.43 U	15.0	1.4 J	0.54 U		-	I	_		-	
Gasoline Range Diesel Range	42.0	1500.0	380.0	- 0.54 0	49.0		-	-	-	-	-
Residual Range	93.6	12000.0	2600.0	_	290		-				-
Polycyclic Aromatic Hydrocarbons (PA		12000.0	2000.0	<u>-</u>	290	-	-		-	-	-
Acenaphthene	0.0206	0.270	0.20	_	0.0250	_	0.30	Ι .	_	_	_
Acenaphthylene	0.0120	0.033 J	0.013 J	-	0.00580 J	_	0.20	_			_
Anthracene	0.0345	0.980	0.690	_	0.0300	-	0.845	-		-	_
Benzo(a)anthracene	0.217	3.50	1.90		0.240	-	1.05	_	_	-	_
Benzo(a)pyrene	0.280	4.40	2.30 J	-	0.330	-	1.45	-	-	-	_
Benzo(b)fluoranthene	0.407	7.50	3.30 J	-	0.380	_	1.45	-	-	-	_
Benzo(g,h,i)perylene	0.238	1.30	0.730 J	_	0.240	-	0.30	_	_	-	_
Benzo(k)fluoranthene	0.155	2.60	1.30 J	-	0.120	-	13	-	-	-	-
Chrysene	0.288	5.90	2.50	_	0.280 J	-	1.29	_	_	_	-
Dibenz(a,h)anthracene	0.0615	0.40	0.210 J	_	0.0570	=	1.3	_	_	_	_
Fluoranthene	0.345	7.90	4.50	-	0.370	-	2.23	-	-	-	-
Fluorene	0.00926	0.180	0.150	-	0.0150	-	0.536	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.291	1.90	0.980 J	-	0.270	-	0.10	-	-	-	-
Naphthalene	0.0114 U	0.190 B	0.075 J	-	0.0260 J	-	0.561	-	-	-	-
Phenanthrene	0.111 J	2.60	1.70	-	0.130 J	-	1.17	-	-	-	-
Pyrene	0.304	8.00	3.90	-	0.340	-	1.52	-	-	-	-
Total PAHs	2.79	47.65	24.45	-	2.86	-	=	_	_	-	28
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	0.0116 U	0.2800	0.0480	0.0090 J	-	0.00075 U	0.53	-	-	-	-
Aroclor 1221	0.0127 U	0.0037 U	0.0034 U	0.0037 U	-	0.0051 U	-	-	-	-	-
Aroclor 1232	0.0127 U	0.0024 U	0.0022 U	0.0024 U	_	0.0033 U	_	_	_	_	-
Aroclor 1242	0.0116 U	0.0023 U	0.0021 U	0.0023 U	-	0.0031 U	-	_	_	-	-
Aroclor 1248	0.0116 U	0.0017 U	0.0016 U	0.0018 U	-	0.0024 U		-	-	-	-
Aroclor 1254	0.0116 U	0.4300	0.0960	0.0230	-	0.8800	0.3	-	-	-	-
Aroclor 1260	0.0116 U	0.0014 U	0.0013 U	0.0014 U	-	0.0013 U	0.2	-	-	-	-
Total PCBs	0.0116 U	0.71	0.144	0.032	-	0.8800	0.39	0.064	0.036	-	0.090
Volatile Organic Compounds (VOCs)											
1,1,1,2-Tetrachloroethane	0.0343 U	0.0046 U	0.004 U	-	0.00490 U		-	-	-	-	-
1,1,1-Trichloroethane (TCA)	0.0343 U	0.091	0.0059 U	_	0.00710 U	-	_	-	_	-	_
1,1,2,2-Tetrachloroethane	0.00858 U	0.0028 U	0.0024 U	_	0.00290 U	-	-	_	_	-	-
1,1,2-Trichloroethane	0.0103 U	0.0034 U	0.0030 U	_	0.00360 U		-	-	_	-	-
1,1-Dichloroethane	0.0343 U	0.0051 U	0.0045 U	-	0.00540 U	-	-	-	-	-	-
1,1-Dichloroethene	0.0172 U	0.0330	0.0410	_	0.00630 U	-	_	-	_	-	-
1,1-Dichloropropene	0.0343 U	0.0064 U	0.0056 U	-	0.00680 U	-	-	-	-	-	-
1,2,3-Trichlorobenzene	0.0343 U	0.0038 U	0.0420 U	_	0.0150 J	_	_	_	_	-	-
1,2,3-Trichloropropane	0.0343 U	0.0140 U	0.0120 U	-	0.0150 U	-	-	-	-	-	-
						1	0.0				-
1,2,4-Trichlorobenzene	0.0343 U	0.0047 U	0.0049 J	-	0.00830 J	-	9.2		-	-	
	0.0343 U 0.0343 U	0.0047 U 1.10	0.0049 J 0.0092 J	-	0.00830 J 0.00310 U	<u>-</u> 	9.2	<u>-</u>	-	-	-
1,2,4-Trichlorobenzene				- - -		-		- - -			-

Table 1 **Storm Drain Sediment Analytical Results Crown Cork and Seal** Portland, Oregon

Volatile Organic Compounds (VOCs) co	ontinued										
1,2-Dichlorobenzene	0.0343 U	0.014 U	0.013 U	-	0.0150 U	-	-	-	-	-	-
1,2-Dichloroethane (EDC)	0.0137 U	0.004 U	0.0035 U	-	0.00420 U	-	-	-	-	-	-
1,2-Dichloropropane	0.0103 U	0.0029 U	0.0025 U	-	0.00310 U	-	-	-	-	-	-
1,3,5-Trimethylbenzene	0.0343 U	0.6800	0.0150 J	=	0.00370 U	-	-	-	-	-	=
1,3-Dichlorobenzene	0.0515 U	0.0130 U	0.0110 U	_	0.0130 U	_	0.30	_	_	_	_
1,3-Dichloropropane	0.0343 U	0.0067 U	0.0058 U	_	0.00700 U	_	_	_	_	_	_
1,4-Dichlorobenzene	0.0515 U	0.0130 U	0.0110 U	_	0.0140 U	_	0.30	_	_	_	_
2,2-Dichloropropane	0.0343 U	0.0058 U	0.0051 U	_	0.00610 U	_	-	_	_	_	_
2-Butanone (MEK)	_	0.0630 UJ	0.0550 UJ	_	0.0670 UJ	_	_	_	_	_	_
2-Chlorotoluene	0.0343 U	0.0041 U	0.0036 U	_	0.00430 U	_	_	_	_	_	_
2-Hexanone	_	0.0430 U	0.0380 U	_	0.0450 UJ	-	_	_	_	_	_
4-Chlorotoluene	0.0343 U	0.0036 U	0.0032 U	_	0.00380 U	_	_	_	_	_	_
4-Isopropyltoluene	0.0343 U	_	_	_	0.00790 J	_	_	_	_	_	_
4-Methyl-2-pentanone	-	0.8800	0.0310 U	-	0.0380 UJ	-	_	-	-	-	_
Acetone	-	0.3200 J	0.9200 J	-	0.220 UJ	_	_	-	-	-	_
Benzene	0.0137 U	0.0100 J	0.0037 U	_	0.00450 U	_	_	_	_	_	_
Bromobenzene	0.0343 U	0.0029 U	0.0025 U	-	0.00310 U	-	_	-	-	-	-
Bromochloromethane	0.0343 U	0.0025 U	0.0049 U	-	0.00590 U	_	_	_	-	_	_
Bromodichloromethane	0.0343 U	0.0017 U	0.0015 U	-	0.00180 U	-	_	-	-	_	_
Bromoform	0.0343 U	0.0077 U	0.0069 U	-	0.00830 U	-	_	-	-	_	-
Bromomethane	0.120 U	0.0160 U	0.0140 U	-	0.0170 U	_	_	_	-	_	_
Carbon disulfide	- 0.120 0	0.0053 U	0.0047 U	-	0.00560 U	_	_	-	-	_	_
Carbon Tetrachloride	0.0172 U	0.0046 U	0.0040 U	-	0.00490 U	-	_	-	-	-	-
Chlorobenzene	0.0343 U	0.0120 U	0.0100 U	-	0.0130 U	-	-	-	-	-	-
Chloroethane	0.343 U	0.0190 U	0.0170 U	-	0.0200 UJ	-	_	_	-	-	_
Chloroform	0.0343 U	0.0051 U	0.0045 U	-	0.00540 U	_	_	-	-	-	_
Chloromethane	0.0858 U	0.0120 U	0.0110 U	-	0.0130 U	-	_	_	_	-	_
cis-1,2-Dichloroethene	0.0343 U	0.0060 U	0.0052 U	_	0.00630 U	_	_	_	_	_	_
cis-1,3-Dichloropropene (6)	0.0137 U	0.0022 U	0.0019 U	-	0.00230 U	-	_	-	-	-	-
Dibromochloromethane	0.0172 U	0.0034 U	0.0030 U	-	0.00360 U	-	_	-	-	-	_
Dibromomethane	0.0515 U	0.0160 U	0.0140 U	-	0.0170 U	-	-	-	-	-	-
Dichlorodifluoromethane	0.0343 U	0.0079 U	0.0069 U	_	0.00830 U	_	_	_	_	_	_
Ethylbenzene	0.0343 U	0.0490	0.0051 J	-	0.00260 U	_	_	_	-	-	_
Hexachlorobutadiene	0.0686 U	0.0220 U	0.0190 U	_	0.0230 U	_	0.60	_	_	_	_
Isopropylbenzene	0.0343 U	0.0780	0.0028 U	_	0.00330 U	_	_	_	_	_	_
m,p-Xylenes	0.0343 U	0.2600	0.0180 J	-	0.00380 U	-	_	-	-	-	-
Methyl tert-butyl ether (MTBE)	0.0343 U	0.0073 U	0.0064 U	_	0.00770 U	-	_	_	_	_	_
Methylene Chloride	0.0214 U	0.0300 U	0.0270 U	_	0.0150 U	_	_	_	_	_	_
Naphthalene	0.0343 U	0.0630 U	0.0420 U	_	0.0260 J	_	0.56	_	_	_	_
n-Butylbenzene	0.0343 U	0.0830	0.0049 J	_	0.00450 U	_	-	_	_	-	_
n-Propylbenzene	0.0343 U	0.0590	0.0043 J	_	0.00330 U	_	_	_	_	_	_
o-Xylene	0.0343 U	0.2700	0.0190 J	-	0.00380 U	-	-	-	-	-	-
sec-Butylbenzene	0.0343 U	0.0670	0.0030 U	-	0.00360 U	-	-	-	-	-	-
Styrene	0.0343 U	0.0054 J	0.0045 J	-	0.00310 U	-	-	-	-	_	-
tert-Butylbenzene	0.0343 U	0.0038 U	0.0043 J	-	0.00400 U	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.0172 U	0.0076 J	0.0056 U	-	0.00680 U	-	0.50	-	-	-	-
Toluene	0.0343 U	0.0490 U	0.0420 U	-	0.00330 U	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.0343 U	0.0046 U	0.0040 U	-	0.00490 U	-	-	-	-	_	-
trans-1,3-Dichloropropene	0.0343 U	0.0085 U	0.0074 U	-	0.00890 U	-	-	-	-	_	-
Trichloroethene (TCE)	0.0206 U	0.0038 U	0.0033 U	-	0.00400 U	-	2.1	-	-	-	-
Trichlorofluoromethane	0.0343 U	0.0450 J	0.0240 J	-	0.00750 U	-	-	-	-	_	-
Vinyl Chloride	0.0137 U	0.0086	0.0075 U	-	0.00910 UJ	-	-	-	-	-	-
Phthalates		,									
Bis(2-ethylhexyl) phthalate	0.682 U	6.00 J	0.76 J	-	0.0650 U	-	0.33	0.135		-	20
Butyl benzyl phthalate	0.227 U	0.970 JB	0.500 U	-	0.0650 U	-	_	_	-	-	-
Diethyl phthalate	0.227 U	0.160 U	0.150 U	-	0.0190 U	_	0.60	-	-	-	-
Dimethyl phthalate	0.114 U	0.055 U	0.050 U	-	0.00650 U	-	-	-	-	-	-
Di-n-butyl phthalate	0.568 U	1.50 J	0.500 U	-	0.0650 U	-	0.060	-	-	_	-
Di-n-octyl phthalate	0.568 U	0.055 U	0.050 U	-	0.0710 J	<u> </u>	-	-	-	-	-

Notes:
All units in mg/kg

BOLD = Detected above the MDL. - = not available or not applicable

J= The sample result is an estimated concentration.

MDL = method detection limit mg/kg = milligrams per kilogram

SLV = screenling level value

U = The analyte was not detected at or above the MDL.

UJ= The analyte was not detected. The reported sample quantification limit is an estimate.

B= Compound was found in both blank and sample.

(1) = DEQ, 2009. Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix D: Stormwater Data Reporting and Screening Table.

(2) = DEQ, 2013. Regional Default Background Concentrations for Metals in Soil. State of Oregon. March.

(3) = Screening values approximate the "knee" in the charts presented in the DEQ Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E. Available at:

http://www.deq.state.or.us/lq/pubs/docs/cu/stormwater/GuidanceSWAppendixE.pdf. If detected analytes were lower than the "knee", then the "knee" was selected as the screening criteria. (4) = Each analyte is compared to the lowest listed SLV available. For metals, if the detected concentration was lower than the Background

Concentration, then the Background was selected as the screening criteria. = The reported concentration exceeds the lowest screening criterion.

= The reported method detection limit exceeds the lowest screening criterion.

Table 2
Groundwater Analytical Results - 2015
Crown Cork and Seal
Portland, Oregon

		Sample Resi	ults (ug/L)						Portland Harbor PRG ⁽²⁾	DEQ R	RBCs ⁽¹⁾
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽²⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker
Metals											
Arsenic	1.90 J	1.80 J	1.40 U	1.40 U	3.50 J	2.30 J	10.0	0.014	0.020	-	-
Barium	45.0	28.0	39.0	38.0	19.0	25.0	-	-	-	-	-
Cadmium	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	5.0	-	-	-	
Chromium	0.880 J	2.90	3.40	2.70	6.40	5.60	100	-	100	-	-
Lead	0.250 J	0.170 U	0.190 J	0.170 J	0.830 J	0.370 J	15.0	-	-	-	-
Mercury	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	2.0	0.0146	-	-	
Selenium	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	50.0	420	-	-	-
Silver	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	100	-	-	-	
Petroleum Hydrocarbons											
Gasoline Range	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	-	-	-	-	-
Diesel Range	38.0 J	14.0 U	19.0 J	17.0 J	14.0 U	14.0 U	-	-	-	-	-
Residual Range	24.0 J	23.0 J	13.0 J	13.0 J	17.0 J	20.0 J	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons	s (PAHs)										
Acenaphthene	0.0310	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	99.0	-	-	-
Acenaphthylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	-	-	-	-
Anthracene	0.00950 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	4000	-	-	-
Benzo(a)anthracene	0.00930 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Benzo(a)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-
Benzo(b)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Benzo(g,h,i)perylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	-	-	-	-
Benzo(k)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Chrysene	0.0160 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Dibenz(a,h)anthracene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Fluoranthene	0.300	0.0230	0.0160 J	0.0170 J	0.00580 U	0.00580 U	-	14.0	-	-	-
Fluorene	0.0480	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	530	-	-	-
Indeno(1,2,3-cd)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Naphthalene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-	16,000	10,000
Phenanthrene	0.310	0.0120 J	0.0170 J	0.0170 J	0.00580 U	0.00580 U	-	-	-	-	-
Pyrene	0.160	0.0140 J	0.00960 J	0.0100 J	0.00580 U	0.00580 U	-	400	-	-	-
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	0.0430 U	0.0430 U	0.0470 U	0.0450 U	0.0430 U	0.0430 U	-	-	-	-	-
Aroclor 1221	0.0590 U	0.0590 U	0.0640 U	0.0620 U	0.0590 U	0.0590 U	-	-	-	-	-
Aroclor 1232	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	-	-	-	-
Aroclor 1242	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	-	-	-	-
Aroclor 1248	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	-	-	-	-	-
Aroclor 1254	0.0420 U	0.0420 U	0.0460 U	0.0440 U	0.0420 U	0.0420 U	-	-	-	-	-
Aroclor 1260	0.0370 U	0.0370 U	0.0400 U	0.0390 U	0.0370 U	0.0370 U	-	-	-	-	-
Total PCBs	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	0.5	0.0000064	-	-	-

Table 2
Groundwater Analytical Results - 2015
Crown Cork and Seal
Portland, Oregon

Volatile Organic Compounds (VOCs)											
1,1,1,2-Tetrachloroethane	0.0250 U	-	-	-	-	-					
1,1,1-Trichloroethane (TCA)	1.60	1.90	1.20	1.30	44.0	1.70	200	-	-	-	-
1,1,2,2-Tetrachloroethane	0.0250 U	_	0.40	_	_	_					
1,1,2-Trichloroethane	0.0250 U	0.0870 J	0.0250 U	0.0250 U	0.0690 J	0.0540 J	5.0	1.6	-	19,000	8,800
1,1-Dichloroethane	1.70	0.830	0.420	0.430	0.890	0.270	-	-	-	73,000	16,000
1,1-Dichloroethene	2.20	0.990	0.250	0.230	80.0	0.490	-	-	7	-	340,000
1,1-Dichloropropene	0.0150 U	-	-	-	-	-					
1,2,3-Trichlorobenzene	0.100 U	-	-	-	-	-					
1,2,3-Trichloropropane	0.0500 U	-	-	-	-	-					
1,2,4-Trichlorobenzene	0.0400 U	70	7	-	-	-					
1,2,4-Trimethylbenzene	0.2000 UJ	-	-	-	-	-					
1,2-Dibromo-3-chloropropane	0.440 U	-	-	-	-	-					
1,2-Dibromoethane (EDB)	0.0250 U	-	-	-	-	-					
1,2-Dichlorobenzene	0.0500 U	600	130	-	-	-					
1,2-Dichloroethane (EDC)	0.0250 U	5.0	3.70	-	9,500	3,800					
1,2-Dichloropropane	0.0250 U	5.0	1.50	-	-	-					
1,3,5-Trimethylbenzene	0.0830 U	-	-	-	-	-					
1,3-Dichlorobenzene	0.0500 U	-	96	-	-	-					
1,3-Dichloropropane	0.0250 U	-	-	-	-	-					
1,4-Dichlorobenzene	0.0500 U	75.0	19.0	-	20,000	5,700					
2,2-Dichloropropane	0.0600 U	-	-	-	-	-					
2-Chlorotoluene	0.0700 U	-	-	-	-	-					
4-Chlorotoluene	0.0500 U	-	-	-	-	-					
4-Isopropyltoluene	0.0500 U	-	-	-	-	-					
Benzene	0.0250 U	5.0	5.1	0.4	14,000	2,800					
Bromobenzene	0.0350 U	-	-	-	-	-					
Bromochloromethane	0.0250 U	-	-	-	-	-					
Bromodichloromethane	0.0250 U	-	-	-	9,300	5600					
Bromoform	0.0800 U	-	14.0	-	1,100,000	1,100,000					
Bromomethane	0.160 U	-	-	-	170,000	36,000					
Carbon Tetrachloride	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0980 J	0.0250 U	5.0	0.16	-	5,400	790
Chlorobenzene	0.0250 U	100	160	74	-	-					
Chloroethane	0.0750 U	-	-	-	-	-					
Chloroform	0.260	0.240	0.990	1.00	0.150 J	0.720	-	47.0	-	5,500	1,200
Chloromethane	0.0500 U	-	-	-	2,100,000	320,000					
cis-1,2-Dichloroethene	0.0680 J	0.0630 J	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	0.4	-	-
cis-1,3-Dichloropropene (6)	0.0900 U	-	-	-	-	-					
Dibromochloromethane	0.0250 U	-	-	-	26,000	23,000					
Dibromomethane	0.0250 U	-	-	-	-	-					
Dichlorodifluoromethane	0.0500 U	-	-	-	-	-					
Ethylbenzene	0.0300 U	700	210	160	41,000	7,400					
Hexachlorobutadiene	0.0750 U	-	1.8	-	-	-					
Isopropylbenzene	0.0600 U	-	-	-	-	-					
m,p-Xylenes	0.0500 U	10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-					

Table 2 **Groundwater Analytical Results - 2015 Crown Cork and Seal** Portland, Oregon

Volatile Organic Compounds (VOCs) continued Methyl text-butyl ether (MTRF) 0.0250 H													
Methyl tert-butyl ether (MTBE)	0.0250 U -	-	-	1,100,000	590,000								
Methylene Chloride	0.500 UJ -	59.0	-	-	-								
Naphthalene	0.100 U	0.100 U -	-	-	16,000	10,000							
n-Butylbenzene	0.0800 U -	-	-	-	-								
n-Propylbenzene	0.0250 U -	-	-	-	-								
o-Xylene	0.0600 U 10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-								
sec-Butylbenzene	0.0700 U -	-	-	-	-								
Styrene	0.100 U	0.100 U 100	-	-	-	-							
tert-Butylbenzene	0.100 U	0.100 U -	-	-	-	-							
Tetrachloroethene (PCE)	0.210 J	0.540	0.160 J	0.150 J	0.0700 U	0.0700 U 5.0	0.33	0.20	-	32,000			
Toluene	0.0250 U 1,000	1,500	720	-	-								
trans-1,2-Dichloroethene	0.0250 U 100	1,000	-	1,800,000	350,000								
trans-1,3-Dichloropropene	0.0250 U -	-	-	-	-								
Trichloroethene (TCE)	0.0460 J	0.0640 J	0.0250 U	0.0250 U	0.300	0.0340 J 5.0	3.0	1.4	19,000	3,300			
Trichlorofluoromethane	0.0250 U -	-	-	-	340,000								
Vinyl Chloride	0.0130 U 2.0	0.240	0.02	6,800	910								
Phthalates													
Bis(2-ethylhexyl) phthalate	1.10 U	6.40 J	1.20 U	1.20 U	1.10 U	1.60 J 6.0	0.22	-	-	-			
Butyl benzyl phthalate	0.190 U	0.190 U	0.200 U	0.200 U	0.190 U	0.190 U -	190	-	-	-			
Diethyl phthalate	0.0950 U	0.095 U	0.100 U	0.0980 U	0.0960 U	0.0970 U -	4,400	-	-	-			
Dimethyl phthalate	0.0950 U	0.095 U	0.100 U	0.0980 U	0.0960 U	0.0970 U -	110,000	-	-	-			
Di-n-butyl phthalate	0.120 U	0.120 U	0.130 U	0.130 U	0.120 U	0.130 U -	450	-	-	-			
Di-n-octyl phthalate	0.170 U	0.170 U	0.180 U	0.180 U	0.170 U	0.180 U -	-	-	-	•			

Notes:
All units in μg/L
BOLD = Detected above the MDL.

PH = Portland Harbor

PRG = Preliminary Remedial Goal
- = not available or not applicable

DEQ = Oregon Department of Environmental Quality J = The sample result is an estimated concentration.

MDL = method detection limit

RBCs = risk-based concentrations

SLV = Screening Level Value

U = The analyte was not detected at or above the MDL.

μg/L = micrograms per liter

(1) = DEQ, 2012.Risk-Based Concentrations for Individual Chemicals. Revision: June 7.
(2) = DEQ, 2015. Email from DEQ regarding screening level PRGs from EPA.
(3) = The SLVs listed for xylene compounds are for total xylenes.

(4) = EPA Maximum Contaminant Levels. http://water.epa.gov/drink/contaminants/#List.

= The reported concentration exceeds the lowest screening criterion.
= The reported method detection limit exceeds the lowest screening criterion.

Table 3
Contaminant Transport Modeling Summary
Crown Cork and Seal
Portland, Oregon

	Arsenic	ВЕНР	Benzo(a)anthracene	Chrysene	PCE	1,1-DCE
Base Case						
Input concentration (ug/L) and MW-ID	3.50 MW-4	6.40 MW-2	0.00930 MW-1	0.0160 MW-1	0.540 MW-2	80.0 MW-4
Screening value (ug/L)	0.014 (1)	0.22 (1)	0.001 (2)	0.001 (2)	0.20 (2)	7 (2)
Modeled distance (ft.) from MW- 4 to where concentration is below screening (No Adsorption) ⁽⁵⁾	1,000	820	720	800	100	180
Modeled Concentration at Willamette River (ug/L) No Adsorption	0	0	0	0	0	0
Conservative with Adsorption						
Koc (L/Kg) Value (4)	26,000	111,000	398,000	398,000	155	59
Modeled distance (ft.) from MW- 4 to where concentration is below screening with adsorption ⁽³⁾ and increased conductivity and gradient ⁽⁵⁾	1,020	320	160	180	80	160
Modeled concentration at Willamette River (ug/L) with adsorption ⁽³⁾ and increased conductivity and gradient ⁽⁵⁾	0	0	0	0	0.002	0.253

Notes

- (1) Portland Harbor specific fish consumption rate (175 g/day)
- (2) Portland Harbor PRG (Migration of Contaminated Groundwater)
- (3) Retardation calculated using very conservative organic carbon (foc) of 0.05% vs. typical default value of 0.2% (U.S. EPA, 1996)
- (4) New Jersey Department of Environmental Protection, Chemical Properties for Calculation of impact to Ground
 - Water Soil Remediation Standards
- (5) Conductivity increased an order of magnitude from 0.03 cm/s to 0.3 cm/s; gradient increased from 0.0003 (site wells) to 0.0024 (site to River) Model simulation time = 20 years

Hydraulic gradient of 0.0003 ft/ft (to northwest) based on April 2015 depth to water measurements

Hydraulic conductivity of 0.03 cm/sec. based on boring logs from MW-1 to MW-5 at the water bearing zone (Chin, 2000)

Willamette River is approximately 1,800 feet west of MW-4

μg/L = micrograms per liter

BEHP = bis-2-ethylhexyl phthalate

1,1-DCE = 1,1-Dichloroethene

PCE = Tetrachlorotethene

Table 4 Building Materials Analytical Results – Lead Crown Cork and Seal Portland, Oregon

	Sample Results (mg/kg)																												
	Site ID	PB-01-01	PB-01-02	PB-01-03	PB-01-04	PB-01-05	PB-02-01	PB-02-02	PB-03-01	PB-03-02 PB-0	03-03 PB-04	-01 PB-04-02	PB-05-01	PB-06-01	PB-07-01	PB-07-02	PB-07-03	PB-07-04	PB-07-05	PB-07-06	PB-07-07	PB-08-01	PB-09-01	PB-10-01	PB-11-01	PB-12-01	PB-13-01	South Storm Drain Composite	
	Sample Date	2/11/2016								2/11/2016 2/11																	2/11/2016	6/10/2015	6/10/2015
Metals										,																			
Lead		8500	520	9600	7000	7600	3300	220	11000	610 4	40 140	96	18000	47 U	29000	22000	22000	11000	26000	25000	33000	160	19000	49 U	70	10000	1300	490	8900

Table 5 Building Materials Analytical Results – PCBs Crown Cork and Seal Portland, Oregon

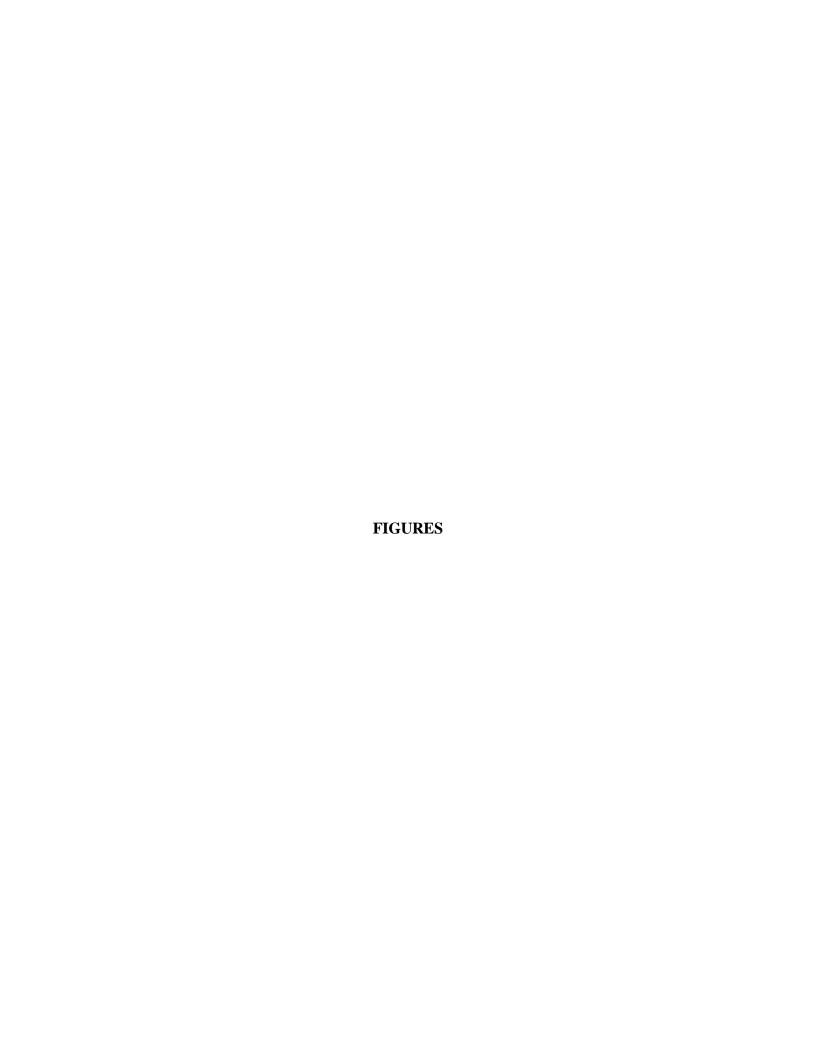
	Sample Results (mg/kg)														
Site ID	PB1-01	PB2-01	PB5-01	PB6-01	PCB-1	PCB-2	PCB-3	PCB-4	PCB-5	PCB-6	PCB-7	PCB-8	PCB-9	South Storm Drain Composite	North Storm Drain Composite
Sample Date	1/20/2016	1/20/2016	1/20/2016	1/20/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	2/11/2016	6/10/2015	6/10/2015
Polychlorinated Biphenyls (PCBs)							_								
Aroclor 1016	0.0010 U	0.00049 U	0.00081 U	0.00053 U	0.0390 U	0.0380 U	0.0400 U	0.0780	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.048	0.28
Aroclor 1221	0.0071 U	0.0033 U	0.0055 U	0.0036 U	0.0390 U	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.0034 U	0.0037 U
Aroclor 1232	0.0340	0.0021 U	0.0036 U	0.0023 U	0.0390 U	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.0022 U	0.0024 U
Aroclor 1242	0.0044 U	0.0020 U	0.0034 U	0.0022 U	0.0390 U	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.0021 U	0.0023 U
Aroclor 1248	0.0033 U	0.0016 U	0.15	0.21	0.0390 U	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.0016 U	0.0017 U
Aroclor 1254	0.0019 U	0.00088 U	0.0015 U	0.00096 U	0.0820	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.0390 U	0.0390 U	0.0780 U	0.096	0.43
Aroclor 1260	0.0027 U	0.0013 U	0.0021 U	0.0014 U	0.039 U	0.0380 U	0.0400 U	0.0400 U	0.0400 U	0.0390 U	0.11	0.0390 U	0.0780 U	0.0013 U	0.0014 U
Total PCBs	0.0340	-	0.15	0.21	0.082	-	-	0.078	-	-	0.11	-	-	0.144	0.71

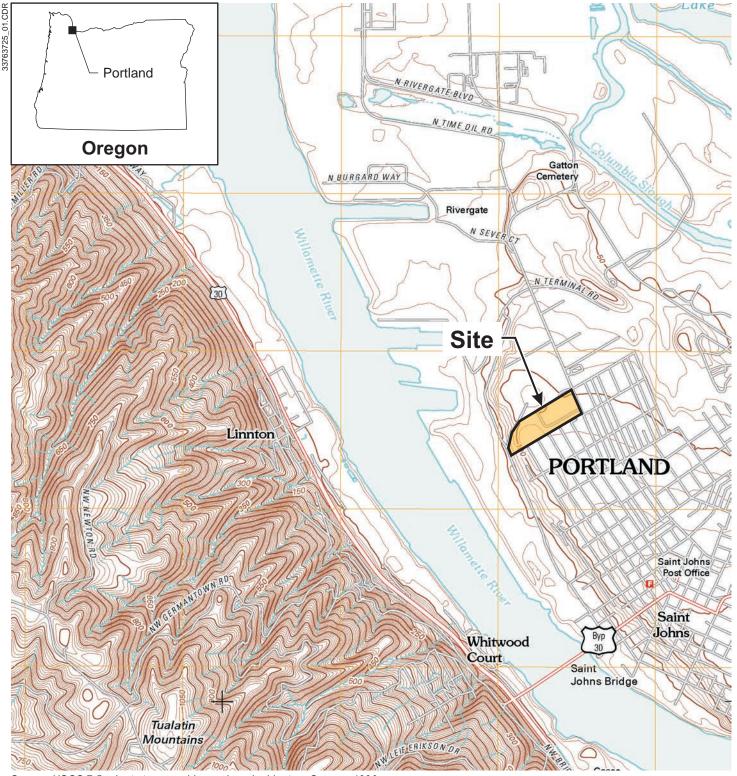
Table 6 Roof Sediment Analytical Results Crown Cork and Seal Portland, Oregon

Sample Results (mg/kg)												
Site ID	S-1	S-2	S-3	S-4	S-5	South Storm Drain Composite	North Storm Drain Composite					
Sample Date	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	6/10/2015	6/10/2015					
Metals		4500	0.400	400	440	400	2000					
Lead	560	1500	2400	400	440	490	8900					
Polychlorinated Biphenyls (PCBs)	,	-	-									
Aroclor 1016	0.0012 U	0.0010 U	0.0013 U	0.0018 U	0.00091 U	0.048	0.28					
Aroclor 1221	0.0082 U	0.0069 U	0.0087 U	0.0120 U	0.0062 U	0.0034 U	0.0037 U					
Aroclor 1232	0.0053 U	0.0044 U	0.0056 U	0.0077 U	0.0040 U	0.0022 U	0.0024 U					
Aroclor 1242	0.0051 U	0.0042 U	0.0054 U	0.0074 U	0.0038 U	0.0021 U	0.0023 U					
Aroclor 1248	0.0039 U	0.0032 U	0.0041 U	0.0056 U	0.0029 U	0.0016 U	0.0017 U					
Aroclor 1254	0.0022 U	0.0550	0.0320	0.0570	0.0770	0.096	0.43					
Aroclor 1260	0.0031 U	0.0026 U	0.0033 U	0.0046 U	0.0024 U	0.0013 U	0.0014 U					
Total PCBs	0.0012 U	0.055	0.032	0.057	0.0770	0.144	0.71					

Table 7 Asphalt Sample Analytical Results Crown Cork and Seal Portland, Oregon

		Sample I	Results (mg/kg)			
		North Lot Asphalt				
	North Lot Asphalt	Composite	South Lot Asphalt		South Storm Drain	North Storm Drain
Site ID	Composite	Duplicate	Composite	Ballast	Composite	Composite
Sample Date	2/9/2016	2/9/2016	2/9/2016	2/9/2016	6/10/2015	6/10/2015
Metals						
Lead	1100	1400	81	2.1	490	8900
Polychlorinated Biphenyls (PCBs)						
Aroclor 1016	0.0320 U	0.170 U	0.0340 U	-	0.048	0.28
Aroclor 1221	0.0320 U	0.170 U	0.0340 U	-	0.0034 U	0.0037 U
Aroclor 1232	0.0320 U	0.170 U	0.0340 U	-	0.0022 U	0.0024 U
Aroclor 1242	0.0320 U	0.170 U	0.0340 U	-	0.0021 U	0.0023 U
Aroclor 1248	0.160	0.350	0.0340 U	-	0.0016 U	0.0017 U
Aroclor 1254	0.0320 U	0.170 U	0.0340 U	-	0.096	0.43
Aroclor 1260	0.0320 U	0.170 U	0.0340 U	-	0.0013 U	0.0014 U
Total PCBs	0.160	0.350	0.0340 U	-	0.144	0.71





Source: USGS 7.5-minute topographic quadrangle, Linnton, Oregon, 1990

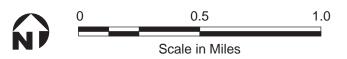
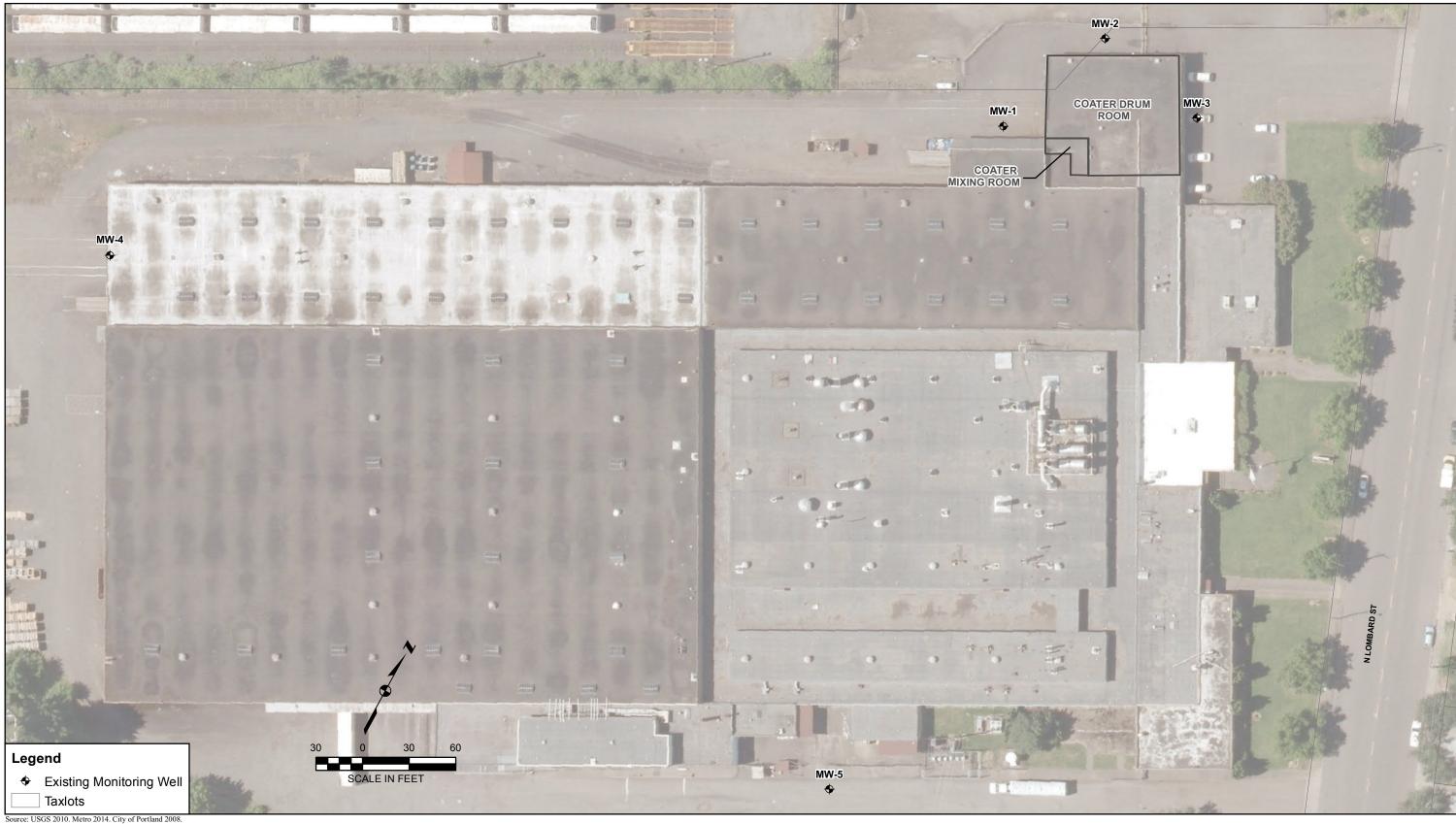
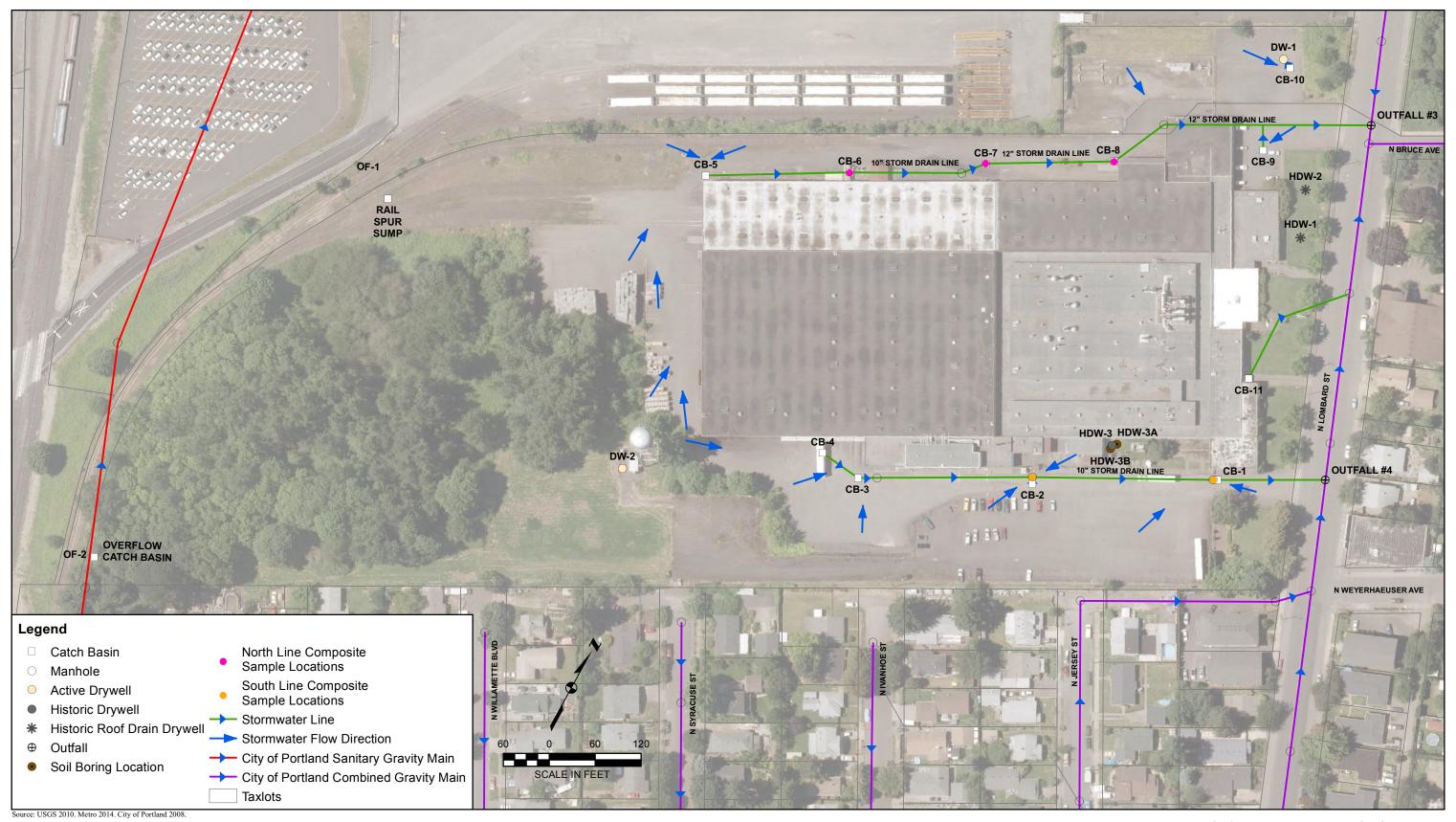


Figure 1
Site Location

Job No. 33763725



SITE PLAN





STORMWATER DRAINAGE SITE PLAN

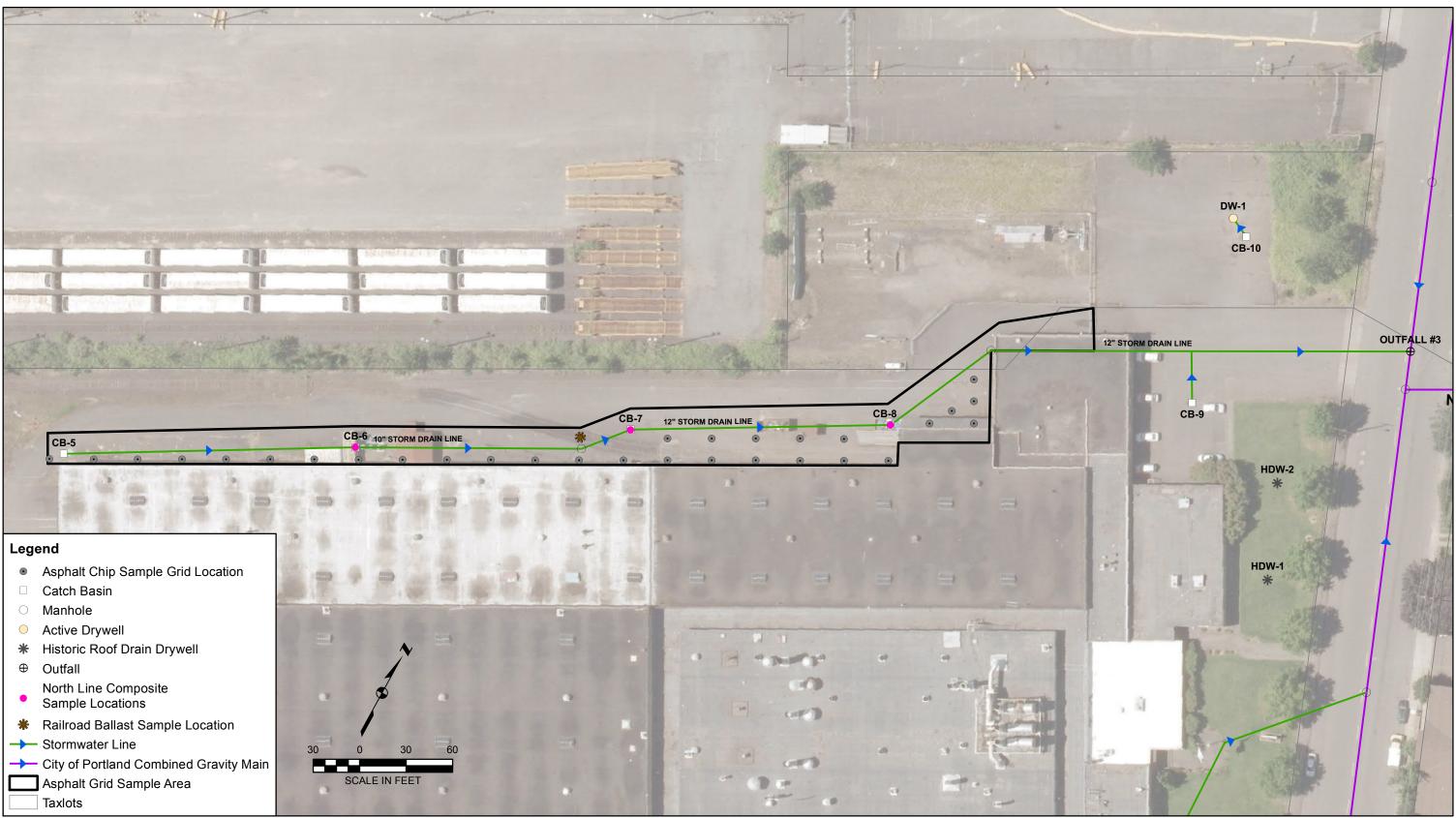


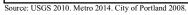
GROUND LEVEL BUILDING MATERIAL SAMPLE LOCATIONS

AECOM

ROOF SAMPLE LOCATIONS





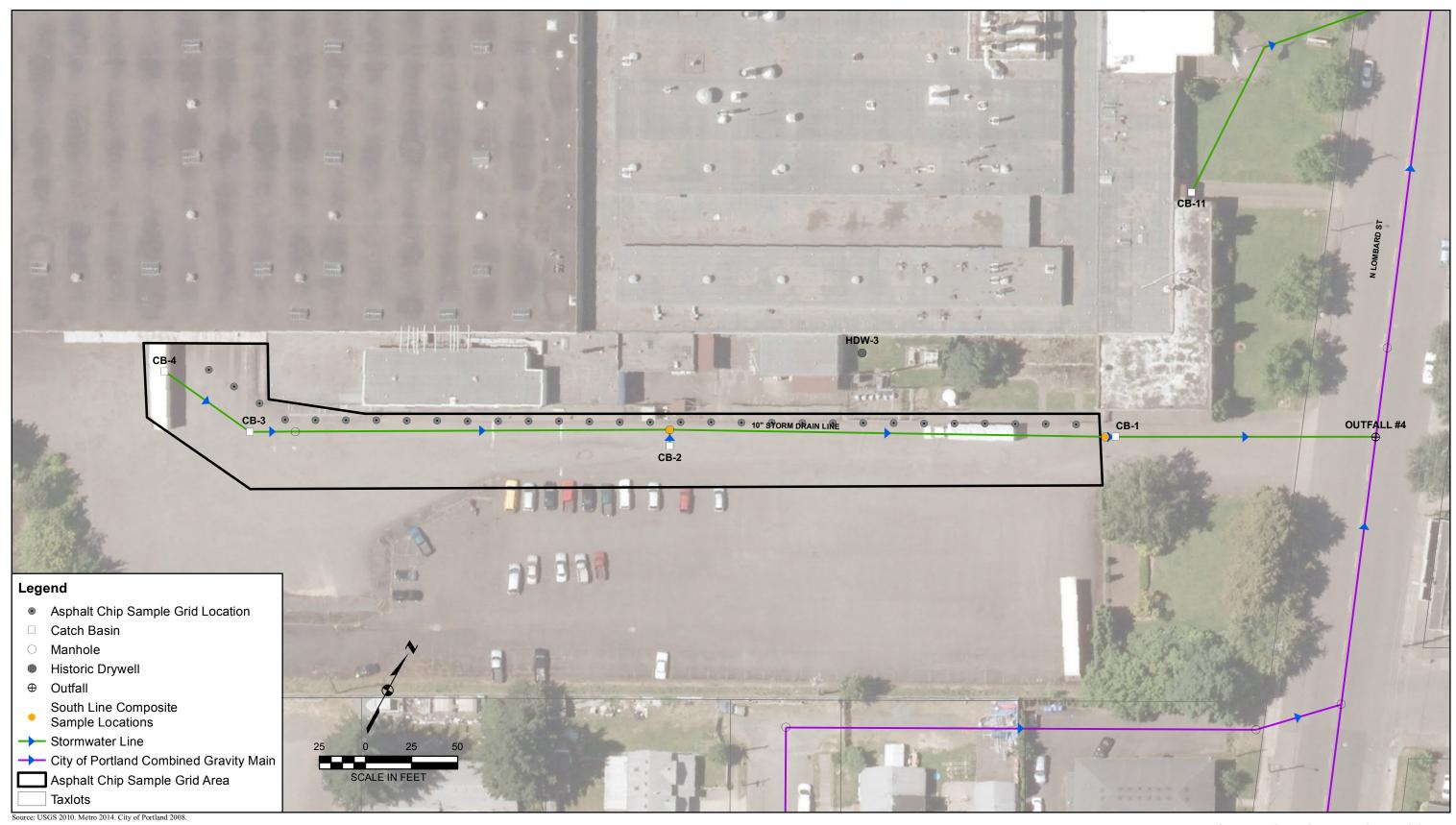


AECOM

ASPHALT CHIP SAMPLE GRID - NORTH









ASPHALT CHIP SAMPLE GRID - SOUTH

APPENDIX A

Dry Well DW-1 Application and Approval



Class V Underground Injection Control Authorization by Rule

Application for UICs that drain Stormwater

DEQ Use Only	
Received:	
Amount:	
Check #:	_
From:	
UIC#:	

	Ah	plication instructio	is start on page 5.		
A. Fee for Authorization	on by Rule				
Number of Low Risk inje	ction systems	_ x \$100 =			\$
Number of Moderate Ris	sk injection systems 1	_ x \$125 =			\$ 125
Number of High Risk* in	jection systems	_ x \$300 =			\$
*High Risk injection syste	ems are invoiced a \$100 c	annual monitoring	processing fee.	Total Amo	ount Due: \$125
B. Facility Common N	ame, Legal Entity, Add	iress & Contact Ir	nformation		
Facility Common Name:	Former Crown Cork and	Seal Facility			
Physical Address: 10200	N. Lombard St.		City: Portland	State: OR	Zip Code: 97203
Legal Entity: Mecox Partr	ners II, LLC	Official Contact: S	Scott Zecher	Title: Execu	utive Vice President
Mailing Address: 417 5th	Avenue		City: New York	State: NY	Zip Code: 10016
Phone Number: 212-624	-4349		Email address: sz@bldg	g.com	
Consultant Contact Nam	e: Steve Roberts		Company: AECOM		
Phone Number: 503-478	3-1623		Email address: steve.a.	roberts@aeco	m.com
C. Individual UIC Infor	mation				
1. ID: DW-1	Status: Under Cons	truction 🔳 Activ	Latitude: 45.601267	Longitud	le: -122.763733
UIC Type: Drywell or	Trench (5D2) Drill ho	ole (5D3) 🔲 Othe	r Fluid type: Stormwater		Depth: 20 feet bgs
Site Map attached	Vehicle Trips Per Day: 1				
Drainage Area: Roo	of Only <a> Parking Only	Road Only	Combination:		Other:
Check the box for each to	rue statement.				
The UIC is more than	500 feet away from a wa	ter well.	The UIC is not within	n a two-year ti	me-of-travel.
■ The UIC does not into	ersect groundwater.				
2. ID:	Status: Under Cons	truction	e Latitude:	Longitud	de:
UIC Type: Drywell or	Trench (5D2) Drill ho	ole (5D3) 🔲 Other	Fluid type:		Depth:
☐ Site Map attached	Vehicle Trips Per Day: _				
Drainage Area: Roo	of Only Parking Only	Road Only	Combination:		Other:
Check the box for each tr	ue statement.				
☐ The UIC is more than	500 feet away from a w	ater well.	☐ The UIC is not within	n a two-year ti	me-of-travel.
☐ The UIC does not into	ersect groundwater.				
3. ID:	Status: Under Cons	truction	E Latitude:	Longitud	de:
UIC Type: Drywell or	Trench (5D2) 🔲 Drill ho	ole (5D3) 🔲 Other	r Fluid type:		Depth:
☐ Site Map attached	Vehicle Trips Per Day: _				
Drainage Area: Roo	of Only Parking Only	Road Only	Combination:		Other:
Check the box for each tr	rue statement.				
☐ The UIC is more than	500 feet away from a w	ater well.	☐ The UIC is not within	n a two-year t	ime-of-travel.
☐ The UIC does not into	ersect groundwater.				

C. Individual UIC Information (continued from prev					
4. ID: Status: Under Construct	tion	Latitude:	Longitud	e:	
UIC Type: Drywell or Trench (5D2) Drill hole (5	D3) Other	Fluid type:		Depth:	
Site Map attached Vehicle Trips Per Day:					
Drainage Area: Roof Only Parking Only	Road Only	Combination:		Other:	
Check the box for each true statement.					
☐ The UIC is more than 500 feet away from a water	well.	☐ The UIC is not	within a two-year ti	me-of-travel.	
☐ The UIC does not intersect groundwater.					
					
5. ID: Status: Under Construct	tion	Latitude:	Longitud	e:	
UIC Type: Dryweii or Trench (5D2) Drill hole (5	D3) Other	Fluid type:		Depth:	
Site Map attached Vehicle Trips Per Day:					
Drainage Area: Roof Only Parking Only	Road Only	Combination:		Other:	
Check the box for each true statement.					
☐ The UIC is more than 500 feet away from a water w	well.	☐ The UIC is not	within a two-year ti	me-of-travel.	
☐ The UIC does not intersect groundwater.					
6. ID: Status: Under Construct	ion	Latitude:	Longitud	e:	
UIC Type: Drywell or Trench (5D2) Drill hole (5D3) 🔲 Other	Fluid type:		Depth:	
Site Map attached Vehicle Trips Per Day:					
Drainage Area: Roof Only Parking Only	Road Only	Combination:		Other:	
Check the box for each true statement.					
☐ The UIC is more than 500 feet away from a water to	well.	☐ The UIC is not	within a two-year ti	me-of-travel.	
☐ The UIC does not intersect groundwater.					
7. ID: Status: Under Construct	tion	Latitude:	Longitud	le:	
UIC Type: Drywell or Trench (5D2) Drill hole (5D3) 🗌 Other	Fluid type:		Depth:	
☐ Site Map attached Vehicle Trips Per Day:					
Drainage Area: Roof Only Parking Only	Road Only	Combination:		Other:	
Check the box for each true statement.					
☐ Is more than 500 feet away from a water well.		☐ Is not within a	two-year time-of-tr	avel.	
☐ Does not intersect groundwater.					
8. ID: Status: Under Construct	tion	Latitude:	Longitud	de:	
UIC Type: Drywell or Trench (5D2) Drill hole (D3) Other	Fluid type:		Depth:	
Site Map attached Vehicle Trips Per Day:					
Drainage Area: Roof Only Parking Only	Road Only	Combination:		Other:	
Check the box for each true statement.					
☐ The UIC is more than 500 feet away from a water	well.	☐ The UIC is not	within a two-year t	ime-of-travel.	
The UIC does not intersect groundwater.					

D. General Requirements for Non-Roof Runoff				
Yes No The UIC receives runoff from areas other than roofs.				
Yes No The UIC is located at a municipal, commercial, or industrial facility.				
Yes No Hazardous substances, toxic materials, or petroleum products are used at the facility.				
I certify that: No contaminated soil or groundwater is present that will be impacted by the UIC				
The UIC only accepts stormwater drainage				
The UIC can be plugged or blocked in the event of a spill				
The site design has minimized stormwater runoff				
No other method of stormwater disposal, including construction or use of surface discharging storm sewers or surface infiltration design, is appropriate (use your best professional judgment)				
Structural and Non Structural Best Management Practices (BMPs) are used for source control and treatment				
E. Additional Requirements for Municipal, Commercial, and Industrial Pacility UICs				
Yes No A Stormwater Management Plan has been prepared in accordance with OAR 340-044-0018(3)				
NO EXPOSURE CERTIFICATION				
Are any of the following materials or activities exposed to precipitation in the area, drained by your UICs?				
Yes No Using, storing or cleaning industrial machinery or equipment, and the areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to stormwater				
Yes No Materials or residuals on the ground, in trenches, running into injection systems or in stormwater inlets resulting from spills/leaks				
Yes No Materials or products from past activity				
Yes No Material handling equipment (except adequately maintained vehicles)				
Yes No Materials or products handled during loading, unloading, or transporting activities				
Yes No Materials or products stored outdoors except final products intended for outside use				
Yes No Materials contained in open, deteriorated or leaking storage drums, barrels, tanks and similar containers				
Yes No Materials or products handled or stored on roads or railways owned or maintained by the discharger				
Yes No Waste material (except waste in covered, non-leaking containers)				
Yes No Application or disposal of process wastewater				
F. Additional Requirements for Industrial and Commercial Facilities that use Hazardous Substances, Toxic Materials, or Petroleum Products				
Check the box to the left to indicate the required item is attached.				
☐ Site Assessment [meets OAR 340-044-0018(3)(d)] ☐ List of past accidents, spills or releases and responses				
UIC Maintenance Plan and Schedule Spill Prevention and Response Plan				
Employee Education Plan				

3

G. Signature of Legally Authorized Representative			建设制度	
I certify under penalty of law that the no exposure certification in So penalty of law that there are no discharges of stormwater contamir industrial facility or site identified in this document (except as allow	ated by	exposure to industri	al activities or mater	ials from the
I understand that I am obligated to submit a No Exposure Certificati the DEQ permitting authority, where the discharge is, to perform in such inspection reports publicly available upon request. I hereby certify that the information contained in this registration	spections	to confirm the con	dition of no exposure	e and to make
Thereby certary that the important contained in this registration	ni is ti ue		5 11205	e and belief.
Signature of Legally Authorized Representative			Date	
Legally Authorized Representative: Scott Zecker		Title: BUP		
	City:	N4	State: WH Zip Co	ode: 100724
Mailing Address: 417 5 Area City: NY State: MY Zip Code: 10 Email Address: 52061dq. 200 Phone Number: 212-624-4349				
DEQ USE	ONLY			
Category:				
1-Roof Drain	3-Lar	ge Parking Lot (100	0 trips/day)	
2-Residential	3-Inc	ustrial/Commercia	(Mjr HW etc)	
2-Small Parking Lot 3-Large Municipality (50+)				
2-Industrial/Commercial (Minor-HW)				
2-Small Municipality (49 or Less)				
Existing Site:				
Yes No UIC Facility Number (if yes):				

Roberts, Steve (Portland)

From: KOHLBECKER Matt < Kohlbecker.Matt@deq.state.or.us >

Sent: Thursday, January 14, 2016 7:49 AM

To: 'sz@bldg.com'; Roberts, Steve (Portland); Flynn, James (Seattle)

Subject: UIC Authorization, No. 14516

Dear James, Scott and Steve,

This email confirms that the underground injection control (UIC) system at the Former Crown Cork and Seal Facility located at 10200 N Lombard Street in Portland, Oregon has met the requirements for authorization by rule, and is "rule authorized" by the Department of Environmental Quality. The UIC system has been assigned facility ID number 14516. Specifically, the following UICs are rule-authorized:

Applicant UIC ID	DEQ UIC ID
DW-1	14516-1

If ownership of this property is transferred in the future, you must fill out the "Name Change and/or Transfer of Registration and Authorization" form, available online at: http://www.deq.state.or.us/wq/uic/forms.htm.

The requirements for operating rule authorized UICs are specified in Oregon Administrative Rule (OAR) 340-044-0018. These OARs can be accessed online by clicking here.

Please do not hesitate to call or email if you have any questions.

Matthew Kohlbecker, RG

UIC Senior Hydrogeologist DEQ Northwest Region 700 NE Multnomah Street Suite 600 Portland, Oregon 97232-4100

p: 503.229.6371 f: 503.229.6957



Class V Underground Injection Control Pre-Closure Notification

DEQ	Use Only
Received:	
Amount: _	
Check #: _	
From:	
UIC #:	
JIC #:	

Instructions for completing this application are on the back of this form. For additional information, see the "Closure of an Injection System" fact sheet, available online at: http://www.deq.state.or.us/wq/uic/guidance.htm

A. Fee for (Closure					
Number of i	njection systems	x \$100 = 100 (tota	l payme	nt)		
B. Facility	Common Name, Leg	al Entity, Address & Co	ontact I	nfor	mation	
Facility Com	mon Name: Crow	Cork + Seal				
Physical Address: 10200 N. Lombard				City:	Portland	State: 62 Zip Code 97203
Legal Entity: Mecox Partners, LLC Official Contact				:500	IT Zecler	Title:
			City:	New York	State: Y Zip Code: 10016	
	per: 212-624- 4			Emai	address: 52@51d	9.60m
Consultant (Contact Name: Jam	es Flynn		Com	pany: AECOM	
	per: 206 -438 -			Emai	address: James, Fly	nn gallom. com
C. Individu	al UIC Information					
	UIC Facility ID (e.g., 1	4825):			Site	Map is attached
ID	Latitude (decimal degrees)	Longitude (decimal degrees)	Depth (feet)	- 1	-	luid Type:
HDW-3	45°35'59.21"N	122045' 49.03"	9]	Sewage Stormw	ater Other: Un Known
] [Sewage Stormw	ater Other:
				Sewage Stormwater Other:		
		4]	Sewage Stormw	ater Other:
					Sewage Stormw	ater Other:
	10.00]	Sewage Stormw	ater Other:
			— Man]	Sewage Stormw	ater Other:
					Sewage Stormw	ater Other:
]	Sewage Stormw	ater Other:
					Sewage Stormw	ater Other:
12,000]	Sewage Stormw	ater Other:
					Sewage Stormw	ater Other:
]	Sewage Stormw	ater Other:
					Sewage Stormw	oter Other:
1000	10.09				Sewage Stormwa	ater Other:
		y			Sewage Stormwa	nter Other:
					Sewage Stormwa	oter Other:
					Sewage Stormwa	eter Other:
					Sewage Stormwa	oter Other:

D. UIC System Typ	pe(s)						
Sewage drill hol	e or Cesspool (complete Section E and Section	n H)					
Stormwater UIC	Stormwater UIC (complete Section F and Section H)						
Includes UIC agricultural	complete Section G and Section H) Es that inject motor vehicle waste, floor pits or drainage, UICs that inject industrial or comme r commercial operation areas where hazardou	ercial process water or waste water, and UICs	that inject fluids from				
E. Requirements for	or Decommissioning Cesspools or Sewage	e Drill Holes					
Is this a sewage drill	hole (check one)?						
I certify that:	I certify that: The sewage drill hole or cesspool has not received industrial or commercial process water or wastewater Decommissioning will be performed by an Oregon-licensed well driller or overseen by an Oregon-licensed geologist, hydrogeologist or engineer (only required for sewage drill holes)						
	SIGNATURE OF LICENSED PROFESSIONAL I certify that the sewage drill hole will be dec	commissioned in accordance with OAR 340-0	44-0040(3)(c).				
	Name S	Signature	License No.				
F. Requirements for	or Decommissioning Stormwater UICs						
Stormwater UIC Typ	e (check all that apply): Roof Drain	Private Driveway Parking Lot	Street				
I certify that:	The UIC only injected stormwater runoff. The industrial or commercial process water or was where hazardous substances, toxic materials or floor drain.	aste water, fluids from industrial or commerc	ial operation areas				
	Sediment from the drywell will be sampled a if the sediment needs to be managed as a ha						
	I will contact DEQ's UIC Hydrogeologist (503-229-6371) if evidence of a spill is encountered during decommissioning, and discuss additional sampling requirements						
	The UIC will be sealed in a manner that preven	ents vertical fluid movement					
	SIGNATURE OF OREGON-LICENSED GEOLOG I certify that the drywell will be decommission		runoff)				
	Name S	Signature	License No.				

G. Requireme	ents for Decommissioning Prohibit	ed UICs			
Fluid Type:	 Motor vehicle waste Floor pit or floor drain, fluid: Agricultural drainage Industrial or commercial proces Fluids from commercial or indupetroleum products are used or 	ss water or waste water (e strial operation areas whe	ere hazardous subs		
Closure Wo	ork Plan is attached				
I certify that:	Analytical results will be used to The UIC will be sealed in a man	o determine if sediment no ner that prevents vertical	eeds to be manage		
H. Signature o	of Legally Authorized Representati	ive			
I hereby ce	ertify that the information contained in Signature of Legally Authorized Repre		nd correct to the b	pest of my knowledge and belief	F.
		cher	Title: E		
	417 5h Acre	City:	N. 4	State: M Zip Code: Oth	٥
Phone Number:	212-624-4349	Email Address:	SZO blde	J. co ·	

From: **KOHLBECKER Matt**

Flynn, James (Seattle); Roberts, Steve (Portland) To:

Subject: Closure Authorization, No. 14516-2 Date: Thursday, January 14, 2016 8:17:24 AM

Dear James and Steve,

This email confirms that DEQ approves closure for the Underground Injection Control (UIC) system at the former Crown Cork and Seal facility, located at 10200 North Lombard Street in Portland, Oregon, in accordance with the procedures in OAR 340-044-0040 and the Preclosure notification form submitted to DEQ on November 30, 2015. The facility ID number for this UIC system is 14516.

Specifically, closure of the following UIC(s) is approved:

Applicant UIC ID	DEQ UIC ID
HDW-3	14516-2

Please do not hesitate to call or email if you have any questions.

Matthew Kohlbecker, RG

UIC Senior Hydrogeologist **DEQ Northwest Region** 700 NE Multnomah Street Suite 600 Portland, Oregon 97232-4100 p: 503.229.6371

f: 503.229.6957

APPENDIX B

Waste Disposal Documentation

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Monday, November 2, 2015

Derek Ramsdell CCS- Portland 9420 NW St Helens Rd Portland, OR 97231

RE: Aecom-8515291 / 8515291

Enclosed are the results of analyses for work order <u>A5J0527</u>, which was received by the laboratory on 10/16/2015 at 12:05:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Quant to buil

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION				
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8515291-Liquids	A5J0527-01	Water	10/16/15 09:40	10/16/15 12:05
8515291-Solids	A5J0527-02	Solid	10/16/15 09:15	10/16/15 12:05

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Quand to buil

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds by	EPA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
3515291-Liquids (A5J0527-01RE1)			Matrix: Water		Batch: 510058	80		
Acetone	ND		20.0	ug/L	1	10/20/15 16:13	EPA 8260B	
Benzene	13.8		0.200	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		1.00	"	"	"	"	
Bromodichloromethane	ND		1.00	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		1.00	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	n n	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	n n	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Darrell Auvil, Project Manager

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

				npounds by E				
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
515291-Liquids (A5J0527-01RE1)			Matrix: Wate		Batch: 510058			
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	ug/L	"	"	"	
Ethylbenzene	2.10		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	50.7		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		2.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	2.40		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	1.46		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
n,p-Xylene	27.4		1.00	"	"	"	"	
o-Xylene	5.37		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		Reco	overy: 100 %	Limits: 80-120 %	"	"	"	
1,4-Difluorobenzene (Surr)				Limits: 80-120 %		"	"	
Toluene-d8 (Surr)				Limits: 80-120 %		"	"	
4-Bromofluorobenzene (Surr)			102 %	Limits: 80-120 %	"	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	oounds by E	PA 8260B			
	D 1	1.57	Reporting					27
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
8515291-Solids (A5J0527-02RE1)			Matrix: Solid	В	atch: 51005			V-
Acetone	ND		0.788	mg/kg wet	50	10/20/15 12:57	5035/8260B	Q-31
Benzene	ND		0.00788	"	"	"	"	
Bromobenzene	ND		0.0197	"	"	"	"	
Bromochloromethane	ND		0.0394	"	"	"	"	
Bromodichloromethane	ND		0.0788	"	"	"	"	
Bromoform	ND		0.0788	"	"	"	"	
Bromomethane	ND		0.394	"	"	"	"	
2-Butanone (MEK)	ND		0.394	"	"	"	"	
n-Butylbenzene	ND		0.0394	"	"	"	"	
sec-Butylbenzene	ND		0.0394	"	"	"	"	
tert-Butylbenzene	ND		0.0394	"	"	"	"	
Carbon tetrachloride	ND		0.0394	"	"	"	"	
Chlorobenzene	ND		0.0197	"	"	"	"	
Chloroethane	ND		0.394	"	"	"	"	Q-31
Chloroform	ND		0.0394	"	"	"	"	
Chloromethane	ND		0.197	"	"	"	"	
2-Chlorotoluene	ND		0.0394	"	"	"	"	
4-Chlorotoluene	ND		0.0394	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		0.197	"	"	"	"	
Dibromochloromethane	ND		0.0788	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.0394	"	"	"	"	
Dibromomethane	ND		0.0394	"	"	"	"	
1,2-Dichlorobenzene	ND		0.0197	"	"	"	"	
1,3-Dichlorobenzene	ND		0.0197	"	"	"	"	
1,4-Dichlorobenzene	ND		0.0197	"	"	"	"	
Dichlorodifluoromethane	ND		0.0788	"	"	"	"	
1,1-Dichloroethane	ND		0.0197	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.0197	"	"	"	"	
1,1-Dichloroethene	ND		0.0197	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.0197	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.0197	"	"	"	"	
1,2-Dichloropropane	ND		0.0197	"	"	"	"	
1,3-Dichloropropane	ND		0.0394	"	"	"	"	
2,2-Dichloropropane	ND		0.0394	"	"	"	"	
1,1-Dichloropropene	ND		0.0394	"	"	"	"	

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Darrell Auvil, Project Manager

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

		voiatile	Organic Con	ipounds by E	ra özbüB			
	D 1) (D)	Reporting		5	.	36.4	N Y :
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
3515291-Solids (A5J0527-02RE1)			Matrix: Solid		atch: 51005			V-1
cis-1,3-Dichloropropene	ND		0.0394	mg/kg wet	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		0.0394	"	"	"	"	
Ethylbenzene	ND		0.0197	"	"	"	"	
Hexachlorobutadiene	ND		0.0788	"	"	"	"	
2-Hexanone	ND		0.394	"	"	"	"	Q-31
Isopropylbenzene	ND		0.0394	"	"	"	"	
4-Isopropyltoluene	ND		0.0394	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		0.394	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		0.0394	"	"	"	"	
Methylene chloride	ND		0.197	"	"	"	"	
Naphthalene	ND		0.0788	"	"	"	"	
n-Propylbenzene	ND		0.0197	"	"	"	"	
Styrene	ND		0.0394	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.0197	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.0197	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.0197	"	"	"	"	
Toluene	ND		0.0394	"	"	"	"	
1,2,3-Trichlorobenzene	ND		0.197	"	"	"	"	
1,2,4-Trichlorobenzene	ND		0.197	"	"	"	"	
1,1,1-Trichloroethane	ND		0.0197	"	"	"	"	
1,1,2-Trichloroethane	ND		0.0197	"	"	"	"	
Trichloroethene (TCE)	ND		0.0197	"	"	"	"	
Trichlorofluoromethane	ND		0.0788	"	"	"	"	Q-31
1,2,3-Trichloropropane	ND		0.0394	"	"	"	"	
1,2,4-Trimethylbenzene	ND		0.0394	"	"	"	"	
1,3,5-Trimethylbenzene	ND		0.0394	"	"	"	"	
Vinyl chloride	ND		0.0197	"	"	"	"	
m,p-Xylene	ND		0.0394	"	"	"	"	
o-Xylene	ND		0.0197	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)	ı	Re	ecovery: 113 %	Limits: 70-130 %	1	"	n	
1,4-Difluorobenzene (Surr)			116 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			109 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			101 %	Limits: 70-130 %	"	"	"	

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)											
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes			
8515291-Liquids (A5J0527-01)			Matrix: Wate	r							
Batch: 5100610											
Arsenic	16.8		1.00	ug/L	1	10/26/15 15:00	EPA 6020A				
Barium	307		1.00	"	"	"	"				
Cadmium	5.79		0.200	"	"	"	"				
Chromium	46.4		1.00	"	"	"	"				
Mercury	1.95		0.0800	"	"	"	"				
Selenium	ND		1.00	"	"	"	"				
Silver	2.47		0.200	"	"	"	"				
3515291-Liquids (A5J0527-01RE1)			Matrix: Wate	r							
Batch: 5100610											
Lead	3250		2.00	ug/L	10	10/26/15 21:36	EPA 6020A				

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

	TCLP Extraction by EPA 1311										
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
8515291-Solids (A5J0527-02)			Matrix: Solid		Batch: 51006	77					
TCLP Extraction	PREP			N/A	1	10/22/15 18:14	EPA 1311				

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
515291-Solids (A5J0527-02)			Matrix: Solid								
Batch: 5100720											
Arsenic	ND		0.100	mg/L	5	10/27/15 12:06	1311/6020A				
Barium	1.35		0.500	"	"	"	"				
Cadmium	ND		0.0500	"	"	"	"				
Chromium	ND		0.100	"	"	"	"				
Lead	31.4		0.0500	"	"	"	"				
Mercury	ND		0.00400	"	"	"	"				
Selenium	ND		0.100	"	"	"	"				
Silver	ND		0.0500	"	"	"	"				

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100534 - EPA 503	5A						Soil					
Blank (5100534-BLK1)				Prepa	ared: 10/	19/15 09:00	Analyzed:	10/19/15 14	:19			
035/8260B												
Acetone	ND		0.667	mg/kg wet	50							Q-33
Benzene	ND		0.00667	"	"							
Bromobenzene	ND		0.0167	"	"							
Bromochloromethane	ND		0.0333	"	"							
Bromodichloromethane	ND		0.0667	"	"							
Bromoform	ND		0.0667	"	"							
Bromomethane	ND		0.333	"	"							
2-Butanone (MEK)	ND		0.333	"	"							Q-3
n-Butylbenzene	ND		0.0333	"	"							
sec-Butylbenzene	ND		0.0333	"	"							
tert-Butylbenzene	ND		0.0333	"	"							
Carbon tetrachloride	ND		0.0333	"	"							
Chlorobenzene	ND		0.0167	"	"							
Chloroethane	ND		0.333	"	"							Q-3
Chloroform	ND		0.0333	"	"							
Chloromethane	ND		0.167	"	"							
2-Chlorotoluene	ND		0.0333	"	"							
4-Chlorotoluene	ND		0.0333	"	"							
1,2-Dibromo-3-chloroprop ane	ND		0.167	"	"							
Dibromochloromethane	ND		0.0667	"	"							
1,2-Dibromoethane (EDB)	ND		0.0333	"	"							
Dibromomethane	ND		0.0333	"	"							
1,2-Dichlorobenzene	ND		0.0167	"	"							
1,3-Dichlorobenzene	ND		0.0167	"	"							
1,4-Dichlorobenzene	ND		0.0167	"	"							
Dichlorodifluoromethane	ND		0.0667	"	"							
1,1-Dichloroethane	ND		0.0167	"	"							
1,2-Dichloroethane (EDC)	ND		0.0167	"	"							
1,1-Dichloroethene	ND		0.0167	"	"							

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Darrell Auvil, Project Manager

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Com	pounds	by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100534 - EPA 5035A							Soil					
Blank (5100534-BLK1)				Prepa	ared: 10/1	9/15 09:00	Analyzed:	10/19/15 14	:19			
cis-1,2-Dichloroethene	ND		0.0167	mg/kg wet	"							
trans-1,2-Dichloroethene	ND		0.0167	"	"							
1,2-Dichloropropane	ND		0.0167	"	"							
1,3-Dichloropropane	ND		0.0333	"	"							
2,2-Dichloropropane	ND		0.0333	"	"							
1,1-Dichloropropene	ND		0.0333	"	"							
cis-1,3-Dichloropropene	ND		0.0333	"	"							
trans-1,3-Dichloropropene	ND		0.0333	"	"							
Ethylbenzene	ND		0.0167	"	"							
Hexachlorobutadiene	ND		0.0667	"	"							
2-Hexanone	ND		0.333	"	"							Q-31
Isopropylbenzene	ND		0.0333	"	"							
4-Isopropyltoluene	ND		0.0333	"	"							
4-Methyl-2-pentanone	ND		0.333	"	"							Q-31
(MiBK) Methyl tert-butyl ether (MTBE)	ND		0.0333	"	"							
Methylene chloride	ND		0.167	"	"							
Naphthalene	ND		0.0667	"	"							
n-Propylbenzene	ND		0.0167	"	"							
Styrene	ND		0.0333	"	"							
1,1,1,2-Tetrachloroethane	ND		0.0167	"	"							
1,1,2,2-Tetrachloroethane	ND		0.0167	"	"							
Tetrachloroethene (PCE)	ND		0.0167	"	"							
Toluene	ND		0.0333	"	"							
1,2,3-Trichlorobenzene	ND		0.167	"	"							
1,2,4-Trichlorobenzene	ND		0.167	"	"							
1,1,1-Trichloroethane	ND		0.0167	"	"							
1,1,2-Trichloroethane	ND		0.0167	"	"							
Trichloroethene (TCE)	ND		0.0167	"	"							
Trichlorofluoromethane	ND		0.0667	"	"							Q-31
1,2,3-Trichloropropane	ND		0.0333	"	"							

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Analyta	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Resuit	MDL	Limit	Units	ווו.	Amount	Result	70KEC	LIMIUS	KYD	Limit	inotes
Batch 5100534 - EPA 5035A	4						Soi	<u> </u>				
Blank (5100534-BLK1)				Prepa		9/15 09:00	Analyzed:	10/19/15 1	4:19			
1,2,4-Trimethylbenzene	ND		0.0333	"	"							
1,3,5-Trimethylbenzene	ND		0.0333	"	"							
Vinyl chloride	ND		0.0167	"	"							
m,p-Xylene	ND		0.0333	"	"							
o-Xylene	ND		0.0167	"	"							
urr: Dibromofluoromethane (Surr)		Reco	overy: 105 %	Limits: 70-13		Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			113 %	70-13			"					
Toluene-d8 (Surr)			104 %	70-13			"					
4-Bromofluorobenzene (Surr)			101 %	70-13	iU %		"					
LCS (5100534-BS1)				Prepa	red: 10/1	9/15 09:00	Analyzed:	10/19/15 1	3:28			
035/8260B												
Acetone	3.01		1.00	mg/kg wet	50	2.00		150	65-135%			Q-3
Benzene	1.00		0.0100	"	"	1.00		100	"			
Bromobenzene	0.927		0.0250	"	"	"		93	"			
Bromochloromethane	0.839		0.0500	"	"	"		84	"			
Bromodichloromethane	0.922		0.100	"	"	"		92	"			
Bromoform	0.802		0.100	"	"	"		80	"			
Bromomethane	1.04		0.500	"	"	"		104	"			
2-Butanone (MEK)	2.29		0.500	"	"	2.00		114	"			Q-3
n-Butylbenzene	1.03		0.0500	"	"	1.00		103	"			
sec-Butylbenzene	1.04		0.0500	"	"	"		104	"			
tert-Butylbenzene	0.932		0.0500	"	"	"		93	"			
Carbon tetrachloride	0.792		0.0500	"	"	"		79	"			
Chlorobenzene	0.927		0.0250	"	"	"		93	"			
Chloroethane	ND		0.500	"	"	"		45	"			Q-3
Chloroform	0.861		0.0500	"	"	"		86	"			
Chloromethane	0.958		0.250	"	"	"		96	"			
2-Chlorotoluene	0.982		0.0500	"	"	"		98	"			
4-Chlorotoluene	1.00		0.0500	"	"	"		100	"			
1,2-Dibromo-3-chloroprop	0.778		0.250	"	"	"		78	"			

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Com	pound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100534 - EPA 503	35A						Soil					
LCS (5100534-BS1)				Prepa	ared: 10/	19/15 09:00	Analyzed:	10/19/15 13	:28			
Dibromochloromethane	0.906		0.100	mg/kg wet	"	"		91	"			
1,2-Dibromoethane (EDB)	0.932		0.0500	"	"	"		93	"			
Dibromomethane	0.946		0.0500	"	"	"		95	"			
1,2-Dichlorobenzene	0.964		0.0250	"	"	"		96	"			
1,3-Dichlorobenzene	0.966		0.0250	"	"	"		97	"			
1,4-Dichlorobenzene	0.940		0.0250	"	"	"		94	"			
Dichlorodifluoromethane	0.948		0.100	"	"	"		95	"			
1,1-Dichloroethane	0.861		0.0250	"	"	"		86	"			
1,2-Dichloroethane (EDC)	0.734		0.0250	"	"	"		73	"			
1,1-Dichloroethene	0.814		0.0250	"	"	"		81	"			
cis-1,2-Dichloroethene	0.840		0.0250	"	"	"		84	"			
trans-1,2-Dichloroethene	0.856		0.0250	"	"	"		86	"			
1,2-Dichloropropane	0.966		0.0250	"	"	"		97	"			
1,3-Dichloropropane	0.900		0.0500	"	"	"		90	"			
2,2-Dichloropropane	0.867		0.0500	"	"	"		87	"			
1,1-Dichloropropene	0.915		0.0500	"	"	"		91	"			
cis-1,3-Dichloropropene	0.991		0.0500	"	"	"		99	"			
trans-1,3-Dichloropropene	0.984		0.0500	"	"	"		98	"			
Ethylbenzene	0.928		0.0250	"	"	"		93	"			
Hexachlorobutadiene	0.782		0.100	"	"	"		78	"			
2-Hexanone	1.60		0.500	"	"	2.00		80	"			Q-31
Isopropylbenzene	0.925		0.0500	"	"	1.00		92	"			
4-Isopropyltoluene	0.982		0.0500	"	"	"		98	"			
4-Methyl-2-pentanone (MiBK)	1.44		0.500	"	"	2.00		72	"			Q-31
Methyl tert-butyl ether (MTBE)	0.884		0.0500	"	"	1.00		88	"			
Methylene chloride	1.02		0.250	"	"	"		102	"			
Naphthalene	1.13		0.100	"	"	"		113	"			
n-Propylbenzene	1.02		0.0250	"	"	"		102	"			
Styrene	0.912		0.0500	"	"	"		91	"			
1,1,1,2-Tetrachloroethane	0.875		0.0250	"	"	"		88	"			

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Darrell Auvil, Project Manager

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	mpound	s by EPA 8	260B						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100534 - EPA 503	5A						Soi					
LCS (5100534-BS1)				Pro	epared: 10/	19/15 09:00	Analyzed:	10/19/15 13	:28			
1,1,2,2-Tetrachloroethane	0.980		0.0250	"	"	"		98	"			
Tetrachloroethene (PCE)	0.905		0.0250	"	"	"		90	"			
Toluene	0.982		0.0500	"	"	"		98	"			
1,2,3-Trichlorobenzene	0.890		0.250	"	"	"		89	"			
1,2,4-Trichlorobenzene	0.876		0.250	"	"	"		88	"			
1,1,1-Trichloroethane	0.800		0.0250	"	"	"		80	"			
1,1,2-Trichloroethane	0.966		0.0250	"	"	"		97	"			
Trichloroethene (TCE)	0.945		0.0250	"	"	"		94	"			
Trichlorofluoromethane	0.423		0.100	"	"	"		42	"			Q-31
1,2,3-Trichloropropane	0.851		0.0500	"	"	"		85	"			
1,2,4-Trimethylbenzene	1.03		0.0500	"	"	"		103	"			
1,3,5-Trimethylbenzene	0.996		0.0500	"	"	"		100	"			
Vinyl chloride	1.12		0.0250	"	"	"		112	"			
m,p-Xylene	1.88		0.0500	"	"	2.00		94	"			
o-Xylene	0.945		0.0250	"	"	1.00		94	"			
Surr: Dibromofluoromethane (Surr	•)	Rec	overy: 100 %	Limits: 70	0-130 %	Dilu	tion: 1x					
1,4-Difluorobenzene (Surr)			110 %	70	-130 %		"					
Toluene-d8 (Surr)			104 %		-130 %		"					
4-Bromofluorobenzene (Surr)			97 %	70	-130 %		"					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B												
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100550 - EPA 503	0B						Wat	er				
Blank (5100550-BLK1)				Pre	pared: 10/	19/15 14:01	Analyzed:	10/19/15 16	:23			
EPA 8260B												
Acetone	ND		20.0	ug/L	1							
Benzene	ND		0.200	"	"							
Bromobenzene	ND		0.500	"	"							
Bromochloromethane	ND		1.00	"	"							
Bromodichloromethane	ND		1.00	"	"							
Bromoform	ND		1.00	"	"							
Bromomethane	ND		5.00	"	"							
2-Butanone (MEK)	ND		10.0	"	"							
n-Butylbenzene	ND		1.00	"	"							
sec-Butylbenzene	ND		1.00	"	"							
tert-Butylbenzene	ND		1.00	"	"							
Carbon tetrachloride	ND		1.00	"	"							
Chlorobenzene	ND		0.500	"	"							
Chloroethane	ND		5.00	"	"							
Chloroform	ND		1.00	"	"							
Chloromethane	ND		5.00	"	"							
2-Chlorotoluene	ND		1.00	"	"							
4-Chlorotoluene	ND		1.00	"	"							
1,2-Dibromo-3-chloroprop	ND		5.00	"	"							
ane												
Dibromochloromethane	ND		1.00	"	"							
1,2-Dibromoethane (EDB)	ND		0.500	"	"							
Dibromomethane	ND		1.00	"	"							
1,2-Dichlorobenzene	ND		0.500	"	"							
1,3-Dichlorobenzene	ND		0.500	"	"							
1,4-Dichlorobenzene	ND		0.500	"	"							
Dichlorodifluoromethane	ND		1.00	"	"							
1,1-Dichloroethane	ND		0.500	"	"							
1,2-Dichloroethane (EDC)	ND		0.500	"	"							
1,1-Dichloroethene	ND		0.500	"	"							

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Darrell Auvil, Project Manager

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B												
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100550 - EPA 503	0B						Wat	ter				
Blank (5100550-BLK1)				Prej	pared: 10/	19/15 14:01	Analyzed:	10/19/15 16	:23			
cis-1,2-Dichloroethene	ND		0.500	ug/L	"							
trans-1,2-Dichloroethene	ND		0.500	"	"							
1,2-Dichloropropane	ND		0.500	"	"							
1,3-Dichloropropane	ND		1.00	"	"							
2,2-Dichloropropane	ND		1.00	"	"							
1,1-Dichloropropene	ND		1.00	"	"							
cis-1,3-Dichloropropene	ND		1.00	"	"							
trans-1,3-Dichloropropene	ND		1.00	"	"							
Ethylbenzene	ND		0.500	"	"							
Hexachlorobutadiene	ND		5.00	"	"							
2-Hexanone	ND		10.0	"	"							
sopropylbenzene	ND		1.00	"	"							
4-Isopropyltoluene	ND		1.00	"	"							
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"							
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"							
Methylene chloride	ND		5.00	"	"							
Naphthalene	ND		2.00	"	"							
n-Propylbenzene	ND		0.500	"	"							
Styrene	ND		1.00	"	"							
1,1,1,2-Tetrachloroethane	ND		0.500	"	"							
1,1,2,2-Tetrachloroethane	ND		0.500	"	"							
Tetrachloroethene (PCE)	ND		0.500	"	"							
Гoluene	ND		1.00	"	"							
1,2,3-Trichlorobenzene	ND		2.00	"	"							
1,2,4-Trichlorobenzene	ND		2.00	"	"							
,1,1-Trichloroethane	ND		0.500	"	"							
1,1,2-Trichloroethane	ND		0.500	"	"							
Trichloroethene (TCE)	ND		0.500	"	"							
Trichlorofluoromethane	ND		2.00	"	"							
1,2,3-Trichloropropane	ND		1.00	"	"							

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Darrell Auvil, Project Manager

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

	Volatile Organic Compounds by EPA 8260B											
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100550 - EPA 5030E	3						Wat	ter				
Blank (5100550-BLK1)				Pre	pared: 10/	19/15 14:01	Analyzed:	10/19/15 1	6:23			
1,2,4-Trimethylbenzene	ND		1.00	"	"							
1,3,5-Trimethylbenzene	ND		1.00	"	"							
Vinyl chloride	ND		0.500	"	"							
m,p-Xylene	ND		1.00	"	"							
o-Xylene	ND		0.500	"	"							
Surr: Dibromofluoromethane (Surr)		Reco	overy: 110 %	Limits: 80-	120 %	Dil	ution: 1x					
1,4-Difluorobenzene (Surr)			104 %		120 %		"					
Toluene-d8 (Surr)			109 %		120 %		"					
4-Bromofluorobenzene (Surr)			115 %	80-	120 %		"					
LCS (5100550-BS1)				Pre	pared: 10/	19/15 14:01	Analyzed:	10/19/15 1	5:29			
EPA 8260B												
Acetone	40.4		20.0	ug/L	1	40.0		101	70-130%			
Benzene	22.4		0.200	"	"	20.0		112	"			
Bromobenzene	21.3		0.500	"	"	"		107	"			
Bromochloromethane	22.9		1.00	"	"	"		114	"			
Bromodichloromethane	22.8		1.00	"	"	"		114	"			
Bromoform	19.4		1.00	"	"	"		97	"			
Bromomethane	22.0		5.00	"	"	"		110	"			
2-Butanone (MEK)	36.1		10.0	"	"	40.0		90	"			
n-Butylbenzene	23.1		1.00	"	"	20.0		116	"			
sec-Butylbenzene	23.2		1.00	"	"	"		116	"			
tert-Butylbenzene	21.5		1.00	"	"	"		107	"			
Carbon tetrachloride	25.6		1.00	"	"	"		128	"			Q-4
Chlorobenzene	21.0		0.500	"	"	"		105	"			
Chloroethane	23.7		5.00	"	"	"		119	"			
Chloroform	21.4		1.00	"	"	"		107	"			
Chloromethane	17.9		5.00	"	"	"		90	"			
2-Chlorotoluene	22.3		1.00	"	"	"		111	"			
4-Chlorotoluene	21.6		1.00	"	"	"		108	"			
1,2-Dibromo-3-chloroprop	18.8		5.00	"	"	"		94	"			
ane												

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B												
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100550 - EPA 503	0B						Wat	er				
LCS (5100550-BS1)				Prej	pared: 10/	19/15 14:01	Analyzed:	10/19/15 15	:29			
Dibromochloromethane	19.3		1.00	ug/L	"	"		96	"			
1,2-Dibromoethane (EDB)	21.7		0.500	"	"	"		108	"			
Dibromomethane	22.2		1.00	"	"	"		111	"			
1,2-Dichlorobenzene	22.0		0.500	"	"	"		110	"			
1,3-Dichlorobenzene	22.3		0.500	"	"	"		112	"			
1,4-Dichlorobenzene	22.0		0.500	"	"	"		110	"			
Dichlorodifluoromethane	22.8		1.00	"	"	"		114	"			
1,1-Dichloroethane	18.0		0.500	"	"	"		90	"			
1,2-Dichloroethane (EDC)	20.0		0.500	"	"	"		100	"			
1,1-Dichloroethene	21.1		0.500	"	"	"		106	"			
cis-1,2-Dichloroethene	20.4		0.500	"	"	"		102	"			
trans-1,2-Dichloroethene	21.1		0.500	"	"	"		105	"			
1,2-Dichloropropane	20.6		0.500	"	"	"		103	"			
1,3-Dichloropropane	19.2		1.00	"	"	"		96	"			
2,2-Dichloropropane	22.6		1.00	"	"	"		113	"			
1,1-Dichloropropene	21.9		1.00	"	"	"		110	"			
cis-1,3-Dichloropropene	18.6		1.00	"	"	"		93	"			
trans-1,3-Dichloropropene	18.3		1.00	"	"	"		91	"			
Ethylbenzene	21.1		0.500	"	"	"		105	"			
Hexachlorobutadiene	24.2		5.00	"	"	"		121	"			Q-41
2-Hexanone	33.1		10.0	"	"	40.0		83	"			
Isopropylbenzene	22.3		1.00	"	"	20.0		111	"			
4-Isopropyltoluene	23.3		1.00	"	"	"		116	"			
4-Methyl-2-pentanone (MiBK)	32.7		10.0	"	"	40.0		82	"			
Methyl tert-butyl ether (MTBE)	20.5		1.00	"	"	20.0		103	"			
Methylene chloride	22.5		5.00	"	"	"		112	"			
Naphthalene	21.1		2.00	"	"	"		106	"			
n-Propylbenzene	22.3		0.500	"	"	"		112	"			
Styrene	20.4		1.00	"	"	"		102	"			
1,1,1,2-Tetrachloroethane	22.0		0.500	"	"	"		110	"			

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Darrell Auvil, Project Manager

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Co	mpound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100550 - EPA 5030)B						Wat	ter				
LCS (5100550-BS1)				Pro	epared: 10/	19/15 14:01	Analyzed:	10/19/15 15	:29			
1,1,2,2-Tetrachloroethane	20.0		0.500	"	"	"		100	"			
Tetrachloroethene (PCE)	21.6		0.500	"	"	"		108	"			
Toluene	21.0		1.00	"	"	"		105	"			
1,2,3-Trichlorobenzene	22.5		2.00	"	"	"		112	"			
1,2,4-Trichlorobenzene	22.6		2.00	"	"	"		113	"			
1,1,1-Trichloroethane	22.0		0.500	"	"	"		110	"			
1,1,2-Trichloroethane	21.3		0.500	"	"	"		106	"			
Trichloroethene (TCE)	22.5		0.500	"	"	"		112	"			
Trichlorofluoromethane	22.6		2.00	"	"	"		113	"			
1,2,3-Trichloropropane	20.0		1.00	"	"	"		100	"			
1,2,4-Trimethylbenzene	22.5		1.00	"	"	"		113	"			
1,3,5-Trimethylbenzene	22.6		1.00	"	"	"		113	"			
Vinyl chloride	22.1		0.500	"	"	"		110	"			
m,p-Xylene	43.0		1.00	"	"	40.0		107	"			
o-Xylene	21.8		0.500	"	"	20.0		109	"			
Surr: Dibromofluoromethane (Surr)		Red	covery: 112 %	Limits: 80	0-120 %	Dilt	ution: 1x					
1,4-Difluorobenzene (Surr)			104 %		0-120 %		"					
Toluene-d8 (Surr)			105 %		0-120 %		"					
4-Bromofluorobenzene (Surr)			113 %	80	0-120 %		"					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 **Reported:**Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Com	pounds	S DY EPA 8	200B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 503	5A						Soil					
Blank (5100576-BLK1)				Prepa	ared: 10/2	20/15 08:30	Analyzed:	10/20/15 12	:21			
5035/8260B												
Acetone	ND		0.667	mg/kg wet	50							Q-31
Benzene	ND		0.00667	"	"							
Bromobenzene	ND		0.0167	"	"							
Bromochloromethane	ND		0.0333	"	"							
Bromodichloromethane	ND		0.0667	"	"							
Bromoform	ND		0.0667	"	"							
Bromomethane	ND		0.333	"	"							
2-Butanone (MEK)	ND		0.333	"	"							
n-Butylbenzene	ND		0.0333	"	"							
sec-Butylbenzene	ND		0.0333	"	"							
tert-Butylbenzene	ND		0.0333	"	"							
Carbon tetrachloride	ND		0.0333	"	"							
Chlorobenzene	ND		0.0167	"	"							
Chloroethane	ND		0.333	"	"							Q-31
Chloroform	ND		0.0333	"	"							
Chloromethane	ND		0.167	"	"							
2-Chlorotoluene	ND		0.0333	"	"							
4-Chlorotoluene	ND		0.0333	"	"							
1,2-Dibromo-3-chloroprop ane	ND		0.167	"	"							
Dibromochloromethane	ND		0.0667	"	"							
1,2-Dibromoethane (EDB)	ND		0.0333	"	"							
Dibromomethane	ND		0.0333	"	"							
1,2-Dichlorobenzene	ND		0.0167	"	"							
1,3-Dichlorobenzene	ND		0.0167	"	"							
1,4-Dichlorobenzene	ND		0.0167	"	"							
Dichlorodifluoromethane	ND		0.0667	"	"							
1,1-Dichloroethane	ND		0.0167	"	"							
1,2-Dichloroethane (EDC)	ND		0.0167	"	"							
1,1-Dichloroethene	ND		0.0167	"	"							

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Darrell Auvil, Project Manager

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Com	pounds	by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 503	5A						Soil					
Blank (5100576-BLK1)				Prep	ared: 10/2	20/15 08:30	Analyzed:	10/20/15 12	:21			
cis-1,2-Dichloroethene	ND		0.0167	mg/kg wet	"							
trans-1,2-Dichloroethene	ND		0.0167	"	"							
1,2-Dichloropropane	ND		0.0167	"	"							
1,3-Dichloropropane	ND		0.0333	"	"							
2,2-Dichloropropane	ND		0.0333	"	"							
1,1-Dichloropropene	ND		0.0333	"	"							
cis-1,3-Dichloropropene	ND		0.0333	"	"							
trans-1,3-Dichloropropene	ND		0.0333	"	"							
Ethylbenzene	ND		0.0167	"	"							
Hexachlorobutadiene	ND		0.0667	"	"							
2-Hexanone	ND		0.333	"	"							Q-31
Isopropylbenzene	ND		0.0333	"	"							
4-Isopropyltoluene	ND		0.0333	"	"							
4-Methyl-2-pentanone (MiBK)	ND		0.333	"	"							
Methyl tert-butyl ether (MTBE)	ND		0.0333	"	"							
Methylene chloride	ND		0.167	"	"							
Naphthalene	ND		0.0667	"	"							
n-Propylbenzene	ND		0.0167	"	"							
Styrene	ND		0.0333	"	"							
1,1,1,2-Tetrachloroethane	ND		0.0167	"	"							
1,1,2,2-Tetrachloroethane	ND		0.0167	"	"							
Tetrachloroethene (PCE)	ND		0.0167	"	"							
Toluene	ND		0.0333	"	"							
1,2,3-Trichlorobenzene	ND		0.167	"	"							
1,2,4-Trichlorobenzene	ND		0.167	"	"							
1,1,1-Trichloroethane	ND		0.0167	"	"							
1,1,2-Trichloroethane	ND		0.0167	"	"							
Trichloroethene (TCE)	ND		0.0167	"	"							
Trichlorofluoromethane	ND		0.0667	"	"							Q-31
1,2,3-Trichloropropane	ND		0.0333	"	"							

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 **Reported:**Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Com	pound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 5035	4						Soi	<u> </u>				
Blank (5100576-BLK1)				Prepa	ared: 10/	20/15 08:30	Analyzed:	10/20/15 12	2:21			
1,2,4-Trimethylbenzene	ND		0.0333	"	"							
1,3,5-Trimethylbenzene	ND		0.0333	"	"							
Vinyl chloride	ND		0.0167	"	"							
m,p-Xylene	ND		0.0333	"	"							
o-Xylene	ND		0.0167	"	"							
Surr: Dibromofluoromethane (Surr)		Reco	overy: 108 %	Limits: 70-1	30 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			115 %	70-1.			"					
Toluene-d8 (Surr)			109 %	70-1.			"					
4-Bromofluorobenzene (Surr)			100 %	70-1.	30 %		"					
LCS (5100576-BS1)				Prepa	ared: 10/	20/15 08:30	Analyzed:	10/20/15 1	1:31			
5035/8260B												
Acetone	2.51		1.00	mg/kg wet	50	2.00		126	65-135%			Q-3
Benzene	1.10		0.0100	"	"	1.00		110	"			
Bromobenzene	0.941		0.0250	"	"	"		94	"			
Bromochloromethane	0.873		0.0500	"	"	"		87	"			
Bromodichloromethane	0.956		0.100	"	"	"		96	"			
Bromoform	0.776		0.100	"	"	"		78	"			
Bromomethane	1.08		0.500	"	"	"		108	"			
2-Butanone (MEK)	1.93		0.500	"	"	2.00		97	"			
n-Butylbenzene	1.09		0.0500	"	"	1.00		109	"			
sec-Butylbenzene	1.10		0.0500	"	"	"		110	"			
tert-Butylbenzene	0.984		0.0500	"	"	"		98	"			
Carbon tetrachloride	0.897		0.0500	"	"	"		90	"			
Chlorobenzene	0.934		0.0250	"	"	"		93	"			
Chloroethane	0.508		0.500	"	"	"		51	"			Q-3
Chloroform	0.954		0.0500	"	"	"		95	"			
Chloromethane	0.946		0.250	"	"	"		95	"			
2-Chlorotoluene	1.03		0.0500	"	"	"		103	"			
4-Chlorotoluene	1.06		0.0500	"	"	"		106	"			
1,2-Dibromo-3-chloroprop	0.796		0.250	"	"	"		80	"			
ane												

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Com	pound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 503	35A						Soil					
LCS (5100576-BS1)				Prep	ared: 10/2	20/15 08:30	Analyzed:	10/20/15 11	:31			
Dibromochloromethane	0.886		0.100	mg/kg wet	"	"		89	"			
1,2-Dibromoethane (EDB)	0.932		0.0500	"	"	"		93	"			
Dibromomethane	0.963		0.0500	"	"	"		96	"			
1,2-Dichlorobenzene	0.998		0.0250	"	"	"		100	"			
1,3-Dichlorobenzene	1.00		0.0250	"	"	"		100	"			
1,4-Dichlorobenzene	0.974		0.0250	"	"	"		97	"			
Dichlorodifluoromethane	0.991		0.100	"	"	"		99	"			
1,1-Dichloroethane	0.990		0.0250	"	"	"		99	"			
1,2-Dichloroethane (EDC)	0.802		0.0250	"	"	"		80	"			
1,1-Dichloroethene	0.957		0.0250	"	"	"		96	"			
cis-1,2-Dichloroethene	0.960		0.0250	"	"	"		96	"			
trans-1,2-Dichloroethene	0.998		0.0250	"	"	"		100	"			
1,2-Dichloropropane	1.01		0.0250	"	"	"		101	"			
1,3-Dichloropropane	0.910		0.0500	"	"	"		91	"			
2,2-Dichloropropane	0.973		0.0500	"	"	"		97	"			
1,1-Dichloropropene	1.04		0.0500	"	"	"		104	"			
cis-1,3-Dichloropropene	1.04		0.0500	"	"	"		104	"			
trans-1,3-Dichloropropene	1.00		0.0500	"	"	"		100	"			
Ethylbenzene	0.944		0.0250	"	"	"		94	"			
Hexachlorobutadiene	0.792		0.100	"	"	"		79	"			
2-Hexanone	1.38		0.500	"	"	2.00		69	"			Q-31
Isopropylbenzene	0.942		0.0500	"	"	1.00		94	"			
4-Isopropyltoluene	1.04		0.0500	"	"	"		104	"			
4-Methyl-2-pentanone (MiBK)	1.41		0.500	"	"	2.00		70	"			
Methyl tert-butyl ether (MTBE)	0.978		0.0500	"	"	1.00		98	"			
Methylene chloride	1.09		0.250	"	"	"		109	"			
Naphthalene	1.12		0.100	"	"	"		112	"			
n-Propylbenzene	1.08		0.0250	"	"	"		108	"			
Styrene	0.912		0.0500	"	"	"		91	"			
1,1,1,2-Tetrachloroethane	0.882		0.0250	"	"	"		88	"			

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Darrell Auvil, Project Manager

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Cor	npound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 5035	Ą						Soi	<u> </u>				
LCS (5100576-BS1)				Pre	pared: 10/	20/15 08:30	Analyzed:	10/20/15 11	:31			
1,1,2,2-Tetrachloroethane	1.03		0.0250	"	"	"		103	"			
Tetrachloroethene (PCE)	0.915		0.0250	"	"	"		92	"			
Toluene	1.02		0.0500	"	"	"		102	"			
1,2,3-Trichlorobenzene	0.881		0.250	"	"	"		88	"			
1,2,4-Trichlorobenzene	0.874		0.250	"	"	"		87	"			
1,1,1-Trichloroethane	0.911		0.0250	"	"	"		91	"			
1,1,2-Trichloroethane	0.967		0.0250	"	"	"		97	"			
Trichloroethene (TCE)	1.03		0.0250	"	"	"		103	"			
Trichlorofluoromethane	0.520		0.100	"	"	"		52	"			Q-31
1,2,3-Trichloropropane	0.879		0.0500	"	"	"		88	"			
1,2,4-Trimethylbenzene	1.10		0.0500	"	"	"		110	"			
1,3,5-Trimethylbenzene	1.06		0.0500	"	"	"		106	"			
Vinyl chloride	1.20		0.0250	"	"	"		120	"			
m,p-Xylene	1.92		0.0500	"	"	2.00		96	"			
o-Xylene	0.965		0.0250	"	"	1.00		96	"			
urr: Dibromofluoromethane (Surr)		Rec	overy: 108 %	Limits: 70-	130 %	Dilu	ution: 1x					
1,4-Difluorobenzene (Surr)			112 %	70-	130 %		"					
Toluene-d8 (Surr)			107 %		130 %		"					
4-Bromofluorobenzene (Surr)			98 %	70-	130 %		"					
Ouplicate (5100576-DUP1)				Pre	pared: 10/	19/15 10:05	Analyzed:	10/20/15 13	:22			V -1
QC Source Sample: 8515291-Solids	(A5J0527-02	RE1)										
5035/8260B												
Acetone	ND		0.879	mg/kg wet			ND				30%	Q-31
Benzene	ND		0.00879	"	"		ND				30%	
Bromobenzene	ND		0.0220	"	"		ND				30%	
Bromochloromethane	ND		0.0439	"	"		ND				30%	
Bromodichloromethane	ND		0.0879	"	"		ND				30%	
Bromoform	ND		0.0879	"	"		ND				30%	
Bromomethane	ND		0.439	"	"		ND				30%	
2-Butanone (MEK)	ND		0.439	"	"		ND				30%	
n-Butylbenzene	ND		0.0439	"	"		ND				30%	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 503	5A						Soil					
Ouplicate (5100576-DUP1)				Prepa	ared: 10/	19/15 10:05	Analyzed:	10/20/15 13	:22			V-16
C Source Sample: 8515291-Solid	ls (A5J0527-02)	RE1)										
sec-Butylbenzene	ND		0.0439	mg/kg wet	"		ND				30%	
tert-Butylbenzene	ND		0.0439	"	"		ND				30%	
Carbon tetrachloride	ND		0.0439	"	"		ND				30%	
Chlorobenzene	ND		0.0220	"	"		ND				30%	
Chloroethane	ND		0.439	"	"		ND				30%	Q-31
Chloroform	ND		0.0439	"	"		ND				30%	
Chloromethane	ND		0.220	"	"		ND				30%	
2-Chlorotoluene	ND		0.0439	"	"		ND				30%	
4-Chlorotoluene	ND		0.0439	"	"		ND				30%	
1,2-Dibromo-3-chloroprop	ND		0.220	"	"		ND				30%	
ane	MD		0.0070	"	,,		ND				200/	
Dibromochloromethane	ND		0.0879	"	.,		ND				30%	
1,2-Dibromoethane (EDB)	ND		0.0439	"	"		ND				30%	
Dibromomethane	ND		0.0439				ND				30%	
1,2-Dichlorobenzene	ND		0.0220	"	"		ND				30%	
1,3-Dichlorobenzene	ND		0.0220	"	"		ND				30%	
1,4-Dichlorobenzene	ND		0.0220	"	"		0.00985			***	30%	
Dichlorodifluoromethane	ND		0.0879	"	"		ND				30%	
1,1-Dichloroethane	ND		0.0220	"	"		ND				30%	
1,2-Dichloroethane (EDC)	ND		0.0220	"	"		ND				30%	
1,1-Dichloroethene	ND		0.0220	"	"		ND				30%	
cis-1,2-Dichloroethene	ND		0.0220	"	"		ND				30%	
trans-1,2-Dichloroethene	ND		0.0220	"	"		ND				30%	
1,2-Dichloropropane	ND		0.0220	"	"		ND				30%	
1,3-Dichloropropane	ND		0.0439	"	"		ND				30%	
2,2-Dichloropropane	ND		0.0439	"	"		ND				30%	
1,1-Dichloropropene	ND		0.0439	"	"		ND				30%	
cis-1,3-Dichloropropene	ND		0.0439	"	"		ND				30%	
trans-1,3-Dichloropropene	ND		0.0439	"	"		ND				30%	
Ethylbenzene	ND		0.0220	"	"		ND				30%	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100576 - EPA 5035	A						Soi	I				
Ouplicate (5100576-DUP1)				Prep	ared: 10/	19/15 10:05	Analyzed:	10/20/15 13	:22			V-16
C Source Sample: 8515291-Solids	(A5J0527-02	RE1)										
Hexachlorobutadiene	ND		0.0879	mg/kg wet	"		ND				30%	
2-Hexanone	ND		0.439	"	"		ND				30%	Q-31
Isopropylbenzene	ND		0.0439	"	"		ND				30%	
4-Isopropyltoluene	ND		0.0439	"	"		ND				30%	
4-Methyl-2-pentanone (MiBK)	ND		0.439	"	"		ND				30%	
Methyl tert-butyl ether (MTBE)	ND		0.0439	"	"		ND				30%	
Methylene chloride	ND		0.220	"	"		ND				30%	
Naphthalene	ND		0.0879	"	"		ND				30%	
n-Propylbenzene	ND		0.0220	"	"		ND				30%	
Styrene	ND		0.0439	"	"		ND				30%	
1,1,1,2-Tetrachloroethane	ND		0.0220	"	"		ND				30%	
1,1,2,2-Tetrachloroethane	ND		0.0220	"	"		ND				30%	
Tetrachloroethene (PCE)	ND		0.0220	"	"		ND				30%	
Toluene	ND		0.0439	"	"		ND				30%	
1,2,3-Trichlorobenzene	ND		0.220	"	"		ND				30%	
1,2,4-Trichlorobenzene	ND		0.220	"	"		ND				30%	
1,1,1-Trichloroethane	ND		0.0220	"	"		ND				30%	
1,1,2-Trichloroethane	ND		0.0220	"	"		ND				30%	
Trichloroethene (TCE)	ND		0.0220	"	"		ND				30%	
Trichlorofluoromethane	ND		0.0879	"	"		ND				30%	Q-31
1,2,3-Trichloropropane	ND		0.0439	"	"		ND				30%	
1,2,4-Trimethylbenzene	ND		0.0439	"	"		ND				30%	
1,3,5-Trimethylbenzene	ND		0.0439	"	"		ND				30%	
Vinyl chloride	ND		0.0220	"	"		ND				30%	
n,p-Xylene	ND		0.0439	"	"		ND				30%	
o-Xylene	ND		0.0220	"	"		ND				30%	
urr: Dibromofluoromethane (Surr)		Re	covery: 113 %	Limits: 70-1		Dilı	ution: 1x					
1,4-Difluorobenzene (Surr) Toluene-d8 (Surr)			116 % 108 %		30 % 30 %		,,					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number: 8515291Reported:Portland, OR 97231Project Manager: Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Co	mpound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits F	RPD	RPD Limit	Notes
Patch 5100576 EDA 5035A							Soil					

Batch 5100576 - EPA 5035A Soi

Duplicate (5100576-DUP1) Prepared: 10/19/15 10:05 Analyzed: 10/20/15 13:22 **V-16**

QC Source Sample: 8515291-Solids (A5J0527-02RE1)

Surr: 4-Bromofluorobenzene (Surr) Recovery: 99 % Limits: 70-130 % Dilution: Ix

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Con	npound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100580 - EPA 503	0B						Wat	er				
Blank (5100580-BLK1)				Pre	pared: 10/2	20/15 12:50	Analyzed:	10/20/15 15	:44			
EPA 8260B												
Acetone	ND		20.0	ug/L	1							
Benzene	ND		0.200	"	"							
Bromobenzene	ND		0.500	"	"							
Bromochloromethane	ND		1.00	"	"							
Bromodichloromethane	ND		1.00	"	"							
Bromoform	ND		1.00	"	"							
Bromomethane	ND		5.00	"	"							
2-Butanone (MEK)	ND		10.0	"	"							
n-Butylbenzene	ND		1.00	"	"							
sec-Butylbenzene	ND		1.00	"	"							
ert-Butylbenzene	ND		1.00	"	"							
Carbon tetrachloride	ND		1.00	"	"							
Chlorobenzene	ND		0.500	"	"							
Chloroethane	ND		5.00	"	"							
Chloroform	ND		1.00	"	"							
Chloromethane	ND		5.00	"	"							
2-Chlorotoluene	ND		1.00	"	"							
4-Chlorotoluene	ND		1.00	"	"							
1,2-Dibromo-3-chloroprop	ND		5.00	"	"							
ane	ND		1.00	"	,,							
Dibromochloromethane	ND		1.00	"	"							
1,2-Dibromoethane (EDB)	ND		0.500	"	"							
Dibromomethane	ND		1.00	"	"							
1,2-Dichlorobenzene	ND		0.500	"	"							
,3-Dichlorobenzene	ND		0.500	"	"							
1,4-Dichlorobenzene	ND		0.500									
Dichlorodifluoromethane	ND		1.00	"	"							
1,1-Dichloroethane	ND		0.500	"	"							
1,2-Dichloroethane (EDC)	ND		0.500	"	"							
1,1-Dichloroethene	ND		0.500	"	"							

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	garne con	ipoulius		,2000					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100580 - EPA 503	0B						Wat	er				
Blank (5100580-BLK1)				Prep	oared: 10/2	20/15 12:50	Analyzed:	10/20/15 15	:44			
cis-1,2-Dichloroethene	ND		0.500	ug/L	"							
trans-1,2-Dichloroethene	ND		0.500	"	"							
1,2-Dichloropropane	ND		0.500	"	"							
1,3-Dichloropropane	ND		1.00	"	"							
2,2-Dichloropropane	ND		1.00	"	"							
1,1-Dichloropropene	ND		1.00	"	"							
cis-1,3-Dichloropropene	ND		1.00	"	"							
rans-1,3-Dichloropropene	ND		1.00	"	"							
Ethylbenzene	ND		0.500	"	"							
Hexachlorobutadiene	ND		5.00	"	"							
2-Hexanone	ND		10.0	"	"							
sopropylbenzene	ND		1.00	"	"							
-Isopropyltoluene	ND		1.00	"	"							
-Methyl-2-pentanone MiBK)	ND		10.0	"	"							
Methyl tert-butyl ether MTBE)	ND		1.00	"	"							
Methylene chloride	ND		5.00	"	"							
Naphthalene	ND		2.00	"	"							
n-Propylbenzene	ND		0.500	"	"							
Styrene	ND		1.00	"	"							
1,1,1,2-Tetrachloroethane	ND		0.500	"	"							
,1,2,2-Tetrachloroethane	ND		0.500	"	"							
Tetrachloroethene (PCE)	ND		0.500	"	"							
Toluene	ND		1.00	"	"							
,2,3-Trichlorobenzene	ND		2.00	"	"							
,2,4-Trichlorobenzene	ND		2.00	"	"							
,1,1-Trichloroethane	ND		0.500	"	"							
,1,2-Trichloroethane	ND		0.500	"	"							
Trichloroethene (TCE)	ND		0.500	"	"							
richlorofluoromethane	ND		2.00	"	"							
,2,3-Trichloropropane	ND		1.00	"	"							

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	yanıc Cor	προαπα	S DY EFA C	2000					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100580 - EPA 5030E	3						Wa	ter				
Blank (5100580-BLK1)				Pre	pared: 10/	20/15 12:50	Analyzed:	10/20/15 15	5:44			
1,2,4-Trimethylbenzene	ND		1.00	"	"							
1,3,5-Trimethylbenzene	ND		1.00	"	"							
Vinyl chloride	ND		0.500	"	"							
m,p-Xylene	ND		1.00	"	"							
o-Xylene	ND		0.500	"	"							
Surr: Dibromofluoromethane (Surr)		Rece	overy: 101 %	Limits: 80-	-120 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			105 %		120 %		"					
Toluene-d8 (Surr)			106 %		120 %		"					
4-Bromofluorobenzene (Surr)			102 %	80-	120 %		"					
LCS (5100580-BS1)				Pre	pared: 10/	20/15 12:50	Analyzed:	10/20/15 14	1:48			
EPA 8260B												
Acetone	35.6		20.0	ug/L	1	40.0		89	70-130%			
Benzene	21.1		0.200	"	"	20.0		106	"			
Bromobenzene	19.6		0.500	"	"	"		98	"			
Bromochloromethane	22.4		1.00	"	"	"		112	"			
Bromodichloromethane	21.7		1.00	"	"	"		108	"			
Bromoform	21.8		1.00	"	"	"		109	"			
Bromomethane	18.2		5.00	"	"	"		91	"			
2-Butanone (MEK)	34.0		10.0	"	"	40.0		85	"			
n-Butylbenzene	20.6		1.00	"	"	20.0		103	"			
sec-Butylbenzene	20.2		1.00	"	"	"		101	"			
tert-Butylbenzene	19.6		1.00	"	"	"		98	"			
Carbon tetrachloride	39.0		1.00	"	"	"		195	"			Q-4
Chlorobenzene	20.2		0.500	"	"	"		101	"			
Chloroethane	32.1		5.00	"	"	"		161	"			Q-4
Chloroform	19.7		1.00	"	"	"		99	"			
Chloromethane	16.3		5.00	"	"	"		81	"			
2-Chlorotoluene	19.8		1.00	"	"	"		99	"			
4-Chlorotoluene	20.0		1.00	"	"	"		100	"			
1,2-Dibromo-3-chloroprop	19.4		5.00	"	"	"		97	"			
ane												

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 **Reported:**Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Con	npound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100580 - EPA 503	0B						Wat	ter				
LCS (5100580-BS1)				Prej	pared: 10/	20/15 12:50	Analyzed:	10/20/15 14	:48			
Dibromochloromethane	21.4		1.00	ug/L	"	"		107	"			
1,2-Dibromoethane (EDB)	21.3		0.500	"	"	"		107	"			
Dibromomethane	21.2		1.00	"	"	"		106	"			
1,2-Dichlorobenzene	19.9		0.500	"	"	"		99	"			
1,3-Dichlorobenzene	19.5		0.500	"	"	"		97	"			
1,4-Dichlorobenzene	19.4		0.500	"	"	"		97	"			
Dichlorodifluoromethane	20.6		1.00	"	"	"		103	"			
1,1-Dichloroethane	20.7		0.500	"	"	"		104	"			
1,2-Dichloroethane (EDC)	19.1		0.500	"	"	"		95	"			
1,1-Dichloroethene	18.1		0.500	"	"	"		90	"			
cis-1,2-Dichloroethene	20.1		0.500	"	"	"		101	"			
trans-1,2-Dichloroethene	20.3		0.500	"	"	"		101	"			
1,2-Dichloropropane	21.5		0.500	"	"	"		108	"			
1,3-Dichloropropane	20.7		1.00	"	"	"		103	"			
2,2-Dichloropropane	19.5		1.00	"	"	"		98	"			
1,1-Dichloropropene	20.5		1.00	"	"	"		102	"			
cis-1,3-Dichloropropene	20.8		1.00	"	"	"		104	"			
trans-1,3-Dichloropropene	21.8		1.00	"	"	"		109	"			
Ethylbenzene	20.0		0.500	"	"	"		100	"			
Hexachlorobutadiene	17.1		5.00	"	"	"		86	"			
2-Hexanone	34.3		10.0	"	"	40.0		86	"			
Isopropylbenzene	19.9		1.00	"	"	20.0		99	"			
4-Isopropyltoluene	19.7		1.00	"	"	"		99	"			
4-Methyl-2-pentanone (MiBK)	34.7		10.0	"	"	40.0		87	"			
Methyl tert-butyl ether (MTBE)	19.3		1.00	"	"	20.0		96	"			
Methylene chloride	21.3		5.00	"	"	"		106	"			
Naphthalene	18.4		2.00	"	"	"		92	"			
n-Propylbenzene	20.6		0.500	"	"	"		103	"			
Styrene	20.0		1.00	"	"	"		100	"			
1,1,1,2-Tetrachloroethane	23.1		0.500	"	"	"		115	"			

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Co	mpound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100580 - EPA 5030E	3						Wat	ter				
LCS (5100580-BS1)				Pr	epared: 10/	20/15 12:50	Analyzed:	10/20/15 14	:48			
1,1,2,2-Tetrachloroethane	21.5		0.500	"	"	"		108	"			
Tetrachloroethene (PCE)	18.5		0.500	"	"	"		92	"			
Toluene	20.2		1.00	"	"	"		101	"			
1,2,3-Trichlorobenzene	17.5		2.00	"	"	"		88	"			
1,2,4-Trichlorobenzene	17.8		2.00	"	"	"		89	"			
1,1,1-Trichloroethane	20.2		0.500	"	"	"		101	"			
1,1,2-Trichloroethane	21.0		0.500	"	"	"		105	"			
Trichloroethene (TCE)	20.4		0.500	"	"	"		102	"			
Trichlorofluoromethane	33.5		2.00	"	"	"		167	"			Q-4
1,2,3-Trichloropropane	20.6		1.00	"	"	"		103	"			
1,2,4-Trimethylbenzene	19.9		1.00	"	"	"		100	"			
1,3,5-Trimethylbenzene	20.0		1.00	"	"	"		100	"			
Vinyl chloride	22.2		0.500	"	"	"		111	"			
m,p-Xylene	40.0		1.00	"	"	40.0		100	"			
o-Xylene	20.2		0.500	"	"	20.0		101	"			
Surr: Dibromofluoromethane (Surr)		Rec	covery: 103 %	Limits: 8	0-120 %	Dilu	ution: 1x					
1,4-Difluorobenzene (Surr)			104 %		0-120 %		"					
Toluene-d8 (Surr)			103 %		0-120 %		"					
4-Bromofluorobenzene (Surr)			96 %	80	0-120 %		"					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by	EPA 60	20 (ICPMS))					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100610 - EPA 3015	A						Wat	er				
Blank (5100610-BLK1)				Pre	pared: 10/	21/15 09:30	Analyzed:	10/26/15 13	3:35			
EPA 6020A												
Arsenic	ND		1.00	ug/L	1							
Barium	ND		1.00	"	"							
Cadmium	ND		0.200	"	"							
Chromium	ND		1.00	"	"							
Lead	ND		0.200	"	"							
Mercury	ND		0.0800	"	"							
Selenium	ND		1.00	"	"							
Silver	ND		0.200	"	"							
LCS (5100610-BS1)				Pre	pared: 10/2	21/15 09:30	Analyzed:	10/26/15 13	3:38			
EPA 6020A												
Arsenic	49.3		1.00	ug/L	1	55.6		89	80-120%			
Barium	47.6		1.00	"	"	"		86	"			
Cadmium	54.0		0.200	"	"	"		97	"			
Chromium	50.9		1.00	"	"	"		92	"			
Lead	57.0		0.200	"	"	"		103	"			
Mercury	1.08		0.0800	"	"	1.11		97	"			
Selenium	26.8		1.00	"	"	27.8		96	"			
Silver	27.3		0.200	"	"	"		98	"			
Matrix Spike (5100610-MS2)				Pre	pared: 10/	21/15 09:30	Analyzed:	10/26/15 15	5:02			
QC Source Sample: 8515291-Liquid EPA 6020A	ls (A5J0527-0	01)										
Arsenic	67.1		1.00	ug/L	1	55.6	16.8	91	75-125%			
Barium	374		1.00	"	"	"	307	121	"			
Cadmium	61.4		0.200	"	"	"	5.79	100	"			
Chromium	101		1.00	"	"	"	46.4	99	"			
Selenium	24.5		1.00	"	"	27.8	ND	88	"			
Silver	29.7		0.200	"	"	"	2.47	98	"			
Matrix Spike (5100610-MS3)				Dra	nared: 10/	21/15 09:30	Analyzed:	10/26/15 2	1.30			

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by	EPA 60	20 (ICPMS)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100610 - EPA 3015	A						Wat	ter				
Matrix Spike (5100610-MS3)				Pre	pared: 10/	21/15 09:30	Analyzed:	10/26/15 2	1:39			
QC Source Sample: 8515291-Liquid EPA 6020A	ls (A5J0527-	01RE1)										
Lead	3420		2.00	ug/L	10	55.6	3250	298	75-125%			Q-03, Q-16
Matrix Spike (5100610-MS4)				Pre	pared: 10/	21/15 09:30	Analyzed:	10/26/15 2	1:42			
QC Source Sample: 8515291-Liquid	ls (A5J0527-	01)										
EPA 6020A												
Mercury	3.13		1.60	ug/L	10	1.11	1.95	106	75-125%			Q-16

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			ICLP	vietals by	EPA 60	20 (ICPMS)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100720 - EPA	1311/3015						Soil					
Blank (5100720-BLK1)				Prej	oared: 10/	23/15 11:49	Analyzed:	10/27/15 1	2:00			
1311/6020A												
Arsenic	ND		0.100	mg/L	5							TCL
Barium	ND		0.500	"	"							TCL
Cadmium	ND		0.0500	"	"							TCL
Chromium	ND		0.100	"	"							TCL
Lead	ND		0.0500	"	"							TCL
Mercury	ND		0.00400	"	"							TCL
Selenium	ND		0.100	"	"							TCL
Silver	ND		0.0500	"	"							TCI
LCS (5100720-BS1)				Prep	oared: 10/	23/15 11:49	Analyzed:	10/27/15 1	2:03			
1311/6020A												
Arsenic	2.50		0.100	mg/L	5	2.50		100	80-120%			TCL
Barium	2.64		0.500	"	"	"		106	"			TCL
Cadmium	2.45		0.0500	"	"	"		98	"			TCL
Chromium	2.57		0.100	"	"	"		103	"			TCL
Lead	2.54		0.0500	"	"	"		102	"			TCL
Mercury	0.0477		0.00400	"	"	0.0500		95	"			TCL
Selenium	2.41		0.100	"	"	2.50		96	"			TCL
Silver	1.24		0.0500	"	"	1.25		99	"			TCL
Matrix Spike (5100720-MS	S1)			Prej	pared: 10/	23/15 11:49	Analyzed:	10/27/15 1	2:09			
QC Source Sample: 8515291- 1311/6020A	Solids (A5J0527-02)										
Arsenic	2.51		0.100	mg/L	5	2.50	ND	101	50-150%			
Barium	3.91		0.500	mg/L	"	2.30	1.35	101	"			
Cadmium	2.48		0.0500	,,	,,	,,	0.0275	98	"			
				"	,,	"		103	"			
Chromium	2.57		0.100	,,	,,	"	ND		,,			
Lead	33.1		0.0500	"	,,		31.4	70	.,			
Mercury	0.0468		0.00400			0.0500	ND	94	"			
Selenium	2.46		0.100	"	"	2.50	ND	99				
Silver	1.25		0.0500	"	"	1.25	ND	100	"			

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			TCLP	Metals b	y EPA 60	20 (ICPMS)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5100720 - EP	A 1311/3015						Soil					

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

SAMPLE PREPARATION INFORMATION

		Vo	latile Organic Compo	ounds by EPA 8260B			
Prep: EPA 5030B					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 5100580							
A5J0527-01RE1	Water	EPA 8260B	10/16/15 09:40	10/20/15 13:25	5mL/5mL	5mL/5mL	1.00
Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 5100576							
A5J0527-02RE1	Solid	5035/8260B	10/16/15 09:15	10/19/15 10:05	12.696g/10mL	10g/10mL	0.79
			Total Metals by EP	A 6020 (ICPMS)			
Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 5100610							
A5J0527-01	Water	EPA 6020A	10/16/15 09:40	10/21/15 09:30	45mL/50mL	45 mL/50 mL	1.00
A5J0527-01RE1	Water	EPA 6020A	10/16/15 09:40	10/21/15 09:30	45mL/50mL	45mL/50mL	1.00
			TCLP Extraction	by EPA 1311			
Prep: EPA 1311 (TO	CLP)				Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 5100677							
A5J0527-02	Solid	EPA 1311	10/16/15 09:15	10/22/15 18:14	84.29g/1686mL	100g/2000mL	NA
			TCLP Metals by EF	PA 6020 (ICPMS)			
Prep: EPA 1311/30	<u></u>				Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 5100720							
A5J0527-02	Solid	1311/6020A	10/16/15 09:15	10/23/15 11:49	5mL/50mL	5mL/50mL	1.00

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CCS- Portland Project: Aecom-8515291

9420 NW St Helens RdProject Number:8515291Reported:Portland, OR 97231Project Manager:Derek Ramsdell11/02/15 16:38

Notes and Definitions

Qualifiers:

- Q-03 Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-16 Reanalysis of an original Batch QC sample.
- Q-31 Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-33 Laboratory control sample (LCS) and continuing calibration verification (CCV) recoveries are outside control limits with no consistent bias. Results are reported as estimated.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- TCLP This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 5100677.
- V-16 Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC

Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

CCS- Portland Project: Aecom-8515291

9420 NW St Helens Rd Project Number: 8515291 Reported:
Portland, OR 97231 Project Manager: Derek Ramsdell 11/02/15 16:38

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Apex Laboratories

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-54484-1

Client Project/Site: Mecox

For:

URS Corporation 111 SW Columbia Suite 1500 Portland, Oregon 97201-5814

Attn: Mr. Stephen Roberts

Authorized for release by:

Authorized for release by. 11/6/2015 3:40:31 PM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

.....LINKS

Review your project results through

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Have a Question?



Visit us at: www.testamericainc.com This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-54484-1

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Case Narrative

Client: □□S Corporation Project/Site: Mecox

TestAmerica Job ID: 580-54484-1

Job ID: 580-5 □ 8 □ 1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-5□8□-1

Receipt

The sample was recei \sqsubseteq ed on 10/26/2015 3:25 PM \sqsubseteq the sample arri \sqsubseteq ed in \sqsubseteq ood condition, properly preser \sqsubseteq ed and, where re \sqsubseteq ired, on ice. The temperat \sqsubseteq re o \sqsubseteq the cooler at receipt was 4.3 \sqsubseteq C.

GC Semi VOA

Method(s) 8082: D = to the hi= to the hi= to concentration o= to the matrix spike / matrix spike d= to the hi= to to the hi

No additional analytical or □□ality iss□es were noted, other than those described abo□e or in the Detinitions/□lossary pa□e.

etals

No analytical or □□ality iss□es were noted, other than those described in the Definitions/□lossary pa□e.

General Chemistry

No analytical or □□ality iss□es were noted, other than those described in the Definitions/□lossary pa□e.

Organic Prep

No analytical or □ality iss es were noted, other than those described in the Definitions/□lossary pa □e.

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Definitions/Glossary

Client: URS Corporation Pro ect/Site: Meco□

TestAmerica Job ID: 580-54484-1

Qualifiers

GC Semi V□A

F1 MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier **Qualifier Description**

Compound was found in the blank and sample.

J Result is less than the R but greater than or equal to the MD and the concentration is an approximate value.

Glossary

Abbre⊟ation These commonly used abbre iations may or may not be present in this report.

isted under the "D" column to designate that the result is reported on a dry weight basis

 $\square R$ Percent Recovery CF□ Contains Free □quid **CNF** Contains no Free □quid

 $D\square R$ Duplicate error ratio (normalized absolute difference)

Dil Fac Dilution Factor

D□, RA, R□, IN Indicates a Dilution, Re-analysis, Re-e Traction, or additional Initial metals/anion analysis of the sample

DIC Decision level concentration MDA Minimum detectable activity $\square D \, \square$ □stimated Detection □imit MDC Minimum detectable concentration

Method Detection □imit $MD \square$ $M\square$ Minimum □evel (Dio □n) NC Not Calculated

ND Not detected at the reporting limit (or MD□ or □D□ if shown)

 $P \square \square$ Practical □uantitation □mit

 $\Box C$ □uality Control $R\square R$ Relative error ratio

Reporting imit or Requested imit (Radiochemistry) $R\square$

Relative Percent Difference, a measure of the relative difference between two points **RPD**

To ☐city ☐quivalent Factor (Dio ☐n) $\mathsf{T} \square \mathsf{F}$ To icity □quivalent □uotient (Dio in) $\mathsf{T}\Box\Box$

TestAmerica Seattle

Client Sample Results

Client: URS Corporation

TestAmerica Job ID: 580-54484-1

Pro ect/Site: Meco

Lab Sample ID: 580-54484-1

Client Sample ID: Storm Sewer Cleanout Date Collected: 10/26/15 09:40 **Matrix: Solid** Percent Solids: 65.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PC□-1016	ND	F1	0.015	0.000 5	mg/□g	<u> </u>	10/08/15 08:44	11/06/15 01:04	1
PC -1 -1	ND		0.016	0.0051	mg/□g	₩	10/08/15 08:44	11/06/15 01:04	1
PC 1	ND		0.016	0.00	mg/□g	₩	10/08/15 08:44	11/06/15 01:04	1
PC -1 4	ND		0.015	0.00□1	mg/□g	₩	10/□8/15 08:44	11/06/15 01:04	1
PC □-1 □48	ND		0.016	0.00□4	mg/□g	₩	10/08/15 08:44	11/06/15 01:04	1
PCB-1254	0.88		0.015	0.001□	mg/□g	₩	10/08/15 08:44	11/06/15 01:04	1
PC□-1□60	ND	F1	0.015	0.001	mg/□g		10/□8/15 08:44	11/06/15 01:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		45 - 135				10/28/15 08:44	11/06/15 01:04	1
DCB Decachlorobiphenyl	58		50 - 140				10/28/15 08:44	11/06/15 01:04	1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.4	0. 🗆	0.□6	mg/□g	<u> </u>	10/08/15 15:10	10/0/15 16:50	10
Barium	190	0. □□	0.11	mg/□g	₩	10/08/15 15:10	10/00/15 16:50	10
Cadmium	4.1 B	0. □□	0.0□8	mg/□g	₩	10/□8/15 15:10	10/00/15 16:50	10
Chromium	63	0.□□	0.0	mg/□g	₩	10/□8/15 15:10	10/0/15 16:50	10
Lead	4800	0. □□	0.0□0	mg/□g	₩	10/08/15 15:10	10/00/15 16:50	10
Selenium	1.2 \Box	1.5	0. 🗆	mg/□g	₩	10/□8/15 15:10	10/00/15 16:50	10
Sil⊡er	5.8	0. 🗆	0.01	mg/□g	₩	10/□8/15 15:10	10/0/15 16:50	10

Method: 7471A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.2		0. 🗆	0.0□1	mg/□g	<u></u>	10/□8/15 14:00	10//15 08:08	10
General Chemistry									

General Chemistry				_	_		
Analyte	Result Qualifier	RL	RL Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	65	0.10	0.10			10/-/15 1	1
Percent Moisture	35	0.10	0.10 🗆			10//15 1	1

TestAmerica Job ID: 580-54484-1

Client: URS Corporation Pro ect/Site: Meco

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-204375/1-A

Matrix: Solid

Analysis Batch: 204983

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 204375

,	~								
	MB MB								
Analyte	Result Qualifier	r RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
PC□-1016	ND	0.010	0.00050	mg/□g		10/08/15 08:44	11/06/15 00:14	1	
PC -1 -1	ND	0.011	0.00□4	mg/□g		10/08/15 08:44	11/06/15 00:14	1	
PC -1	ND	0.011	0.00	mg/□g		10/08/15 08:44	11/06/15 00:14	1	
PC□-1□4□	ND	0.010	0.00□1	mg/□g		10/□8/15 08:44	11/06/15 00:14	1	
PC□-1□48	ND	0.011	0.0016	mg/□g		10/08/15 08:44	11/06/15 00:14	1	
PC□-1□54	ND	0.010	0.000 🗆	mg/□g		10/08/15 08:44	11/06/15 00:14	1	
PC□-1□60	ND	0.010	0.001	mg/□g		10/□8/15 08:44	11/06/15 00:14	1	

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Tetrachloro-m-xylene 57 45 - 135 10/28/15 08:44 11/06/15 00:14 50 - 140 DCB Decachlorobiphenyl 10/28/15 08:44 11/06/15 00:14 62

Lab Sample ID: LCS 580-204375/2-A

Matrix: Solid

Analysis Batch: 204983

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 204375

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
PC□-1016	 0.100	0.0661		mg/□g		66	40 - 140	
PC□-1□60	0.100	0.06□□		mg/□g		6□	60 - 1 □0	

LOS LOS

Surrogate	%Recovery Quality	fier Limits
Tetrachloro-m-xylene	62	45 - 135
DCB Decachlorobiphenvl	64	50 - 140

Lab Sample ID: LCSD 580-204375/3-A

Matrix: Solid

Analysis Batch: 204983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 204375

•	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PC□-1016	0.100	0.0□05		mg/□g			40 - 140		□0
PC□-1□60	0.100	0.0□06		mg/□g		□1	60 - 1 □0	11	□0

L□SD L□SD Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 60 45 - 135 DCB Decachlorobiphenyl 74 50 - 140

Lab Sample ID: 580-54484-1 MS

Matrix: Solid

Analysis Batch: 204983

Client Sample	ID: Storm Sewer	Cleanout
----------------------	------------------------	----------

Prep Type: Total/NA

Prep Batch: 204375

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
PC□-1016	ND	F1	0.14	ND	F1	mg/□g	₩	0	40 - 140	
PC □-1 □60	ND	F1	0.14□	ND	F1	mg/□g	₩	0	60 - 1 □0	

 \Box S \Box S

Surrogate	%Recovery Qualifier	Limits
Tetrachloro-m-xylene	64	45 - 135
DCB Decachlorobiphenyl	62	50 - 140

TestAmerica Seattle

11/6/2015

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TestAmerica Job ID: 580-54484-1

Client: URS Corporation Pro ect/Site: Meco

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-54484-1 MSD Client Sample ID: Storm Sewer Cleanout **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 204983** Prep Batch: 204375 Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit **Analyte**

77 0 NC PC □-1016 ND F1 0.14 ND F1 40 - 140 0 mg/□g PC□-1□60 ND F1 ND F1 ģ 0 □0 $0.14 \square$ mg/□g 60 - 1 □0 NC □SD □SD %Recovery Qualifier Limits Surrogate

Tetrachloro-m-xylene 64 45 - 135 DCB Decachlorobiphenyl 60 50 - 140

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-204432/21-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 204674 Prep Batch: 204432

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac Arsenic ND 0.50 0.18 mg/□g 10/B/15 15:10 10/D/15 14:5D 10 10/08/15 15:10 10/0/15 14:50 □arium ND 0.50 0.0 □ 8 mg/ □ g 10 0.01□ mg/□g Cadmium 0.01 5 0. 0 10/28/15 15:10 10/20/15 14:5 10 Chromium ND 0.50 0.06 □ mg/□g 10/08/15 15:10 10/00/15 14:50 10 Fead ND 0.50 0.048 mg/□g 10/28/15 15:10 10/20/15 14:5 10 Selenium ND 1.0 0. □ 0 mg/ □ g 10/28/15 15:10 10/20/15 14:5 10 Silver ND 0. 0 10/08/15 15:10 10/00/15 14:50 10 0.01 □ mg/ □g

Lab Sample ID: LCS 580-204432/22-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 204674** Prep Batch: 204432 LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit %Rec Limits Arsenic 00 106 80 - 1 0 mg/□g □arium □00 □16 mg/□g 108 80 - 1 0 5.00 5.4□ Cadmium 10 🗆 80 - 1 0 mg/□g Chromium □0.0 □0.4 10□ 80 - 1 0 mg/□g 50.0 51.1 10□ 80 - 1 □0 read mg/□g Selenium □00 □11 mg/□g 105 80 - 1 0 Silver □0.0 □□.8 80 - 1 0 mg/□g

Lab Sample ID: LCSD 580-204432/23-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 204674 Prep Batch: 204432 Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Arsenic □00 □10 105 80 - 1 □0 mg/□g \Box □arium □00 10□ 80 - 1 🗆 0 □0 □14 mg/□g Cadmium 5.00 5.41 108 80 - 1 □0 □0 O mg/□g Chromium □0.0 □0.□ 101 80 - 1 0 □0 mg/□g 50.0 51.□ 10□ 80 - 1 0 □0 read mg/□g Selenium □00 □0□ mg/□g 10□ 80 _ 1 \(\tau \) □0 Silver □0.0 □□.4 mg/□g <u>□</u>1 80 - 1 □0 □0

TestAmerica Seattle

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11/6/2015

6

QC Sample Results

Client: URS Corporation TestAmerica Job ID: 580-54484-1 Pro ect/Site: Meco

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 580-204432/24-A Matrix: Solid Analysis Batch: 204674				Client Sample ID: Lab Control Sam Prep Type: Total/ Prep Batch: 2044					
	Spike	LCSSRM	LCSSRM				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Arsenic	1	148		mg/□g		106.□	□0.4 - 140.		
□arium	□0□	□10		mg/□g		10□4	□ □□4 - 1□□		
							1		
Cadmium	□6.0	□6.□		mg/□g		100.□	□□-1□□		
Chromium	1⊡6	1		mg/□g		101.1	1 6□□-1□□		
							4		
□ead	1□□	1⊡6		mg/□g		10□5	□□-1□□		
	4	101		-		40-0	8		
Selenium	1□□	184		mg/□g		10∐8	6□8 - 1□1. 6		
Silver	40.□	□6.0		mg/□g		8□5	66.□-1□4.		
							1		

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-204421/12-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 204474	Prep Batch: 204421
MB MB	

Analyte		ualifier R	L MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	0.0	0.0060	mg/□g	_	10/08/15 14:00	10/28/15 16:1	1

Lab Sample ID: LCS 580-204421/13-A Client Sample ID: Lab Control S						
Matrix: Solid					Prep Type: Total/NA	
Analysis Batch: 204474					Prep Batch: 204421	
	Spike	LCS LC	S		%Rec.	
Analyte	Added	Result Qua	alifier Unit	D %Re	ec Limits	
Mercury	0.16	0.155	mg/□g		80 - 1 0	

Lab Sample ID: LCSD 580-204421/14-A Matrix: Solid			(Client Sai	nple	ID: Lat	Control Prep Ty	pe: Tot	al/NA
Analysis Batch: 204474							Prep Ba	itch: 20)4421
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.16	0.14	-	mg/□g			80 ₋ 1 □0	4	

80 - 1 🗆 0

QC Association Summary

Client: URS Corporation Pro ect/Site: Meco

TestAmerica Job ID: 580-54484-1

GC Semi V □ A

Prep Batch: 204375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	□550□	
580-54484-1 MS	Storm Sewer Cleanout	Total/NA	Solid	□550□	
580-54484-1 MSD	Storm Sewer Cleanout	Total/NA	Solid	□550□	
□CS 580-□04□□5/□-A	□ab Control Sample	Total/NA	Solid	□550□	
□CSD 580-□04□□5/□-A	□ab Control Sample Dup	Total/NA	Solid	□550□	
M□ 580-□04□□5/1-A	Method □lank	Total/NA	Solid	□550□	

Analysis Batch: 204983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	808□	04 05
580-54484-1 MS	Storm Sewer Cleanout	Total/NA	Solid	808□	□04□□5
580-54484-1 MSD	Storm Sewer Cleanout	Total/NA	Solid	808□	□04□□5
□CS 580-□04□□5/□-A	□ab Control Sample	Total/NA	Solid	808□	□04□□5
□CSD 580-□04□□5/□-A	□ab Control Sample Dup	Total/NA	Solid	808□	04 15
M□ 580-□04□□5/1-A	Method □lank	Total/NA	Solid	808□	□04□□5

Metals

Prep Batch: 204421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	□4□1A	
□CS 580-□044□1/1□-A	□ab Control Sample	Total/NA	Solid	□4□1A	
□CSD 580-□044□1/14-A	□ab Control Sample Dup	Total/NA	Solid	□4□1A	
M□ 580-□044□1/1□-A	Method □lank	Total/NA	Solid	□4□1A	

Prep Batch: 204432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	□050□	_
CS 580- □044 □ / □ - A	□ab Control Sample	Total/NA	Solid	□050□	
□CSD 580-□044 □ / □ - A	□ab Control Sample Dup	Total/NA	Solid	□050□	
CSSRM 580-044 0 / 4-A	□ab Control Sample	Total/NA	Solid	□050□	
M□ 580-□044□□/□1-A	Method □lank	Total/NA	Solid	□050□	

Analysis Batch: 204474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	□4□1A	□044□1
□CS 580-□044□1/1□-A	□ab Control Sample	Total/NA	Solid	□4□1A	□044□1
□CSD 580-□044□1/14-A	□ab Control Sample Dup	Total/NA	Solid	□4□1A	□044□1
M□ 580-□044□1/1□-A	Method □lank	Total/NA	Solid	□4□1A	□044□1

Analysis Batch: 204674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	60□0	044
□CS 580-□044□□/□□-A	□ab Control Sample	Total/NA	Solid	60 □0	□044□□
□CSD 580-□044□□/□□-A	□ab Control Sample Dup	Total/NA	Solid	60 □0	□044□□
□CSSRM 580-□044□□/□4-A	□ab Control Sample	Total/NA	Solid	60 □0	□044□□
M□ 580-□044□□/□1-A	Method □lank	Total/NA	Solid	60 □0	□044□□

TestAmerica Seattle

Page 9 of 15

QC Association Summary

Client: URS Corporation Proect/Site: Meco□

TestAmerica Job ID: 580-54484-1

General Chemistry

Analysis Batch: 204355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-54484-1	Storm Sewer Cleanout	Total/NA	Solid	D 🗆 16	

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Lab Chronicle

Client: URS Corporation Proect/Site: Meco□

TestAmerica Job ID: 580-54484-1

Lab Sample ID: 580-54484-1

Matrix: Solid

Client Sample ID: Storm Sewer Cleanout

Batch Batch Dilution Batch Prepared **Prep Type** Method Run **Factor** Number or Analyzed Analyst Lab Type 04 55 10/0/15 1 0 D TADSDA Total/NA Analysis D 🗆 16

Client Sample ID: Storm Sewer Cleanout Lab Sample ID: 580-54484-1

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	□550□			□04□□5	10/08/15 08:44	DCV	TA□S□A
Total/NA	Analysis	808□		1	□04□8□	11/06/15 01:04	DCV	$TA\square S\square A$
Total/NA	Prep	□050□			□044□□	10/□8/15 15:10	S1□	$TA\square S\square A$
Total/NA	Analysis	60 □0		10	□046□4	10/0/15 16:50	FC□	$TA\square S\square A$
Total/NA	Prep	□4 □1 A			□044□1	10/□8/15 14:00	$M\squareN$	TA□S□A
Total/NA	Analysis	□4 □1A		10	□044 □4	10/00/15 08:08	FC□	TA□S□A

Laboratory References:

 $TA \square S \square A = TestAmerica Seattle, 5 \square 55 8th Street \square ast, Tacoma, \square A \square 84 \square 4, T \square \square (\square 5 \square) \square \square 10$

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TestAmerica Seattle

Certification Summary

Client: URS Corporation TestAmerica Job ID: 580-54484-1
Proïect/Site: Meco□

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority			Certification ID	□xpiration Date
Alaska (UST)	State Program	10	UST-0□□	0⊡-0⊡-16
California	State Program		□□01	01-□1-1□
□-A- □	DoD □□AP		6	01-1 □-16
□- A -□	ISO/I□C 1□0□5		□□□6	01-1 □-16
Montana (UST)	State Program	8	N/A	04-□0-□0
Oregon	N□□AP	10	□ A10000 □	11-06-16
US Fish □ □ ildlife	Federal		□□058448-0	0□-□8-16
USDA	Federal		P = 0-14-001 = 6	04-08-1□
□ ashington	State Program	10	C55□	0⊡-1⊡-16

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Sample Summary

Client: URS Corporation Pro@ct/Site: Meco□

TestAmerica Job ID: 580-54484-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Recei⊡ed
580-54484-1	Storm Sewer Cleanout	Solid	10/06/15 00:40	10/06/15 15:05

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TestAmerica Seattle

Chain of Custody Record



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THE LEADER IN ENVIRONMENTAL TESTING

Phone (253) 922-2310 Fax (253) 922-5047	PM: COC No:																			
Client Information	Sampler:	phy, Sarah A 580-54484 Chain of Custody												580-17128-5989.1						
Dient Contact: Mr. Stephen Roberts	Phone: 503-4	il:												Page: Page 1 of 1						
pany: S Corporation							Analysis Requested													
Address:	Due Date Request	ed;					Т	T	T				T	\top	II	1280	Preservation Cod	les:		
111 SW Columbia Suite 1500												ĺ				945	A-HCL	M - Hexane		
Dity:	TAT Requested (days):						cts	1								1858	B - NaOH	N - None		
Portland	4-0					ă	npo	st				ē				1	C - Zn Acetate D - Nitric Acid	O - AsNaO2 P - Na2O4S		
State, Zip: DR, 97201-5814	STD		M, 8278B, NWITCH, DX	Petroleum Products	8260C - 8260B Volatiles Full List 8270D_SIM - (MOD) Standard PAH Reporting List				reporting list for NWTPH-Dx	اپ			is i	E - NaHSO4	Q - Na2SO3					
Phone:	PO#:	10	3	leur	rtin				N	analyte list			16 M	F - MeOH G - Amchlor	R - Na2S2SO3 S - H2SO4					
503-478-1623(Tel)	Purchase Order	8	F	etro	Sepo				ţ	alyt				H - Ascorbic Acid	T - TSP Dodecal	hydrate				
mail:	WO #:	72 L	8		# H			1	g lis	dan	ļ		30	I - Ice	U - Acetone	etone				
steve.roberts@urs.com	V# 1427536	S Z	\$	olati	List		_		€	Template to build		1	510	J - DI Water K - EDTA	V - MCAA W - ph 4-5					
Project Name:	Project #: 58008476	E	1	š	Full		Analytes		oda	9			containe		Z - other (specify					
Mecox Site:	SSOW#:	-	\$	vest	Stan		4na	ŏ	Ē.	olate			uo	Other:		1				
one,	OCOVIII.	l a le	32, 8	ıt,	olat OD)		py /	王	Standard	emp			্ঠ							
				BR - 4 - 5 -		8082,	2	8260C - 8260B Volatiles 8270D_SIM - (MOD) Star		8082 - (MOD) Copy	8260B_LL, NWTPH_Gx	S	[0]							
			Sample	Matrix (w≒water,	ē Ē	6020, 7471A,	ŏ	3260	70A	0	L'L	NWTPH_Dx -	8270D - (MOD)			Total Number				
		01-	Туре	S=solid.	E §	74.	王	S-O	74	١	<u> </u>	표'	-			2				
Sample Identification	Sample Date	Sample Time	(C=comp,	O=waste/oil, BT≈Tissue, A=Air	Į į	070	NWTPH_Gx	260	6020, 7470A	082	260	M	270			5	Special In	structions/Not	to.	
Sample Identification	Sample Date		e Presents	tion Code:	***	20 I		- N			200			wer BOSS	200		Special III	Structions/No	allowy-go-ley?	
Yang Tangara, American A.A. Andrews,			- 1/2 (1/2)	A. C. Stranger 11 . 1	//		N. I		(U,	IV.	40.70	A.S.C.I	900		1.10993	1	1	Significance or C		
SJOSM Sewas Cleanout	10-26-15	940	<	Solid		X						-		ł		S				
				Solid												1				
				Water												94				
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																M				
Possible Hazard Identification		-			Sa	mple l	Disp	osal (4 fee	may	be as	sess	ed if	sampl	es are	retair	ned longer than 1 hive For	month)		
Non-Hazard Flammable Skin Irritant Poiso	on B Unkno	own LF	Radiological		1 4	—¹Re	eturn	To Clie	nt	Ł	D_{D}	spos	al By	Lab	┖	_ Arci	hive For	Months		
Deliverable Requested: I, II, III, IV, Other (specify)							nstru	ctions/0	QC Re	equire	emen	ts:								
Empty Kit Relinquished by:	Date:								7		A	1	/lethod	of Shipr						
Relinquisiped by:	Date/Time: Company 1200 Block					Recorded by: Date Date										ell	15 1505 Company E,			
Relinquisher by:	Date/Time: 10 26 15 1525 Company E					' Received by: ////								10124			Company			
Relinquished by:	Date/Time: Company					Received by: Date/Time:									wile	10/	Company			
Custody Seals Intact	rateri 1905.	- in -	, (i) i pi	al d	. 15	Cooler	r Temp	erature(s) °C a	nd Oth	ner Rer	narks:	8	2	14.3	01	S. John Sandari	and the Co	6.01	

Page 14 of 15









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(1)

Job Number: 580-54484-1

Login Number: 54484 List Source: TestAmerica Seattle

List Number: 1

Creator: S□abik-Seror□Philip M

Overtion		A manua.	Comment
Question		Answer	Comment
Radioactivity wasn't checked or is = backgraurvey meter.</td <td>ound as measured by a</td> <td>N/A</td> <td></td>	ound as measured by a	N/A	
The cooler's custody seal, if present, is intact.		N/A	
Sample custody seals, if present, are intact.		N/A	
The cooler or samples do not appear to have tampered with.	been compromised or	True	
Samples were received on ice.		True	
Cooler Temperature is acceptable.		True	
Cooler Temperature is recorded.		True	
COC is present.		True	
COC is filled out in ink and legible.		True	
COC is filled out with all pertinent information		True	
Is the Field Sampler's name present on COC	?	True	
There are no discrepancies between the cont	ainers received and the COC.	True	
Samples are received within Holding Time.		True	
Sample containers have legible labels.		True	
Containers are not broken or leaking.		True	
Sample collection date/times are provided.		True	
Appropriate sample containers are used.		True	
Sample bottles are completely filled.		True	
Sample Preservation Verified.		N/A	
There is sufficient vol. for all requested analys MS/MSDs	ses, incl. any requested	True	
Containers requiring zero headspace have no <6mm (1/4").	headspace or bubble is	N/A	
Multiphasic samples are not present.		N/A	
Samples do not require splitting or compositir	ng.	N/A	
Residual Chlorine Checked.		N/A	

TestAmerica Seattle

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 1. Generator, D. Number 24613 2. Page 1 of UNIFORM HAZARDOUS **WASTE MANIFEST** 5. Generator's Name and Mailing Address Generator's Site Address (if different than mailing address) Crown Cork and Seal 10200 N. Lombard Street Portland, OR 97203 Max 6. Transporter 1 Company Name CCS-A Division of PNE Corp. WAH000014944 7. Transporter 2 Company Name **Burlington Environmental LLC** U.S. EPA ID Number 8. Designated Facility Name and Site Address
Burington Endronmental LLC Kent U.S. EPA ID Number WAD991281767 20245 77th Ave S 425-227-0311 Kent, WA 98032 U.S.A. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 10. Containers 9a. 11. Total 12. Unit 13. Waste Codes HM and Packing Group (If any)) Wt./Vol. Quantity Type UN3077 Waste Environmentally Hazardous Substances, GENERATOR DM 2000 Solid, N.O.S. (Lead) 9 PGIII ERG(171) 14. Special Handling Instructions and Additional Information Profile# 733717-00 Truck# 316 Ordent 15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, Learning that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. Generator's/Offeror's Printed/Typed Name FOR MELON IT PORTING LLC AMER FOR MICH TO ROBOTE 101 Import to U.S. Port of entry/exit: Transporter signature (for exports only): Date leaving U.S. 17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name 0 C5+ Transporter 2 Printed/Typed Name 18. Discrepancy 18a. Discrepancy Indication Space Туре Full Rejection Quantity Residue Partial Rejection Manifest Reference Number U.S. EPA ID Number 18b. Alternate Facility (or Generator) Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Month Day 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Signatura

Printed/Typed Name

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

1C TON OF - -

Printed: 02 DEC 2015

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Generator's Waste Profile 736142-00

Page

Stericycle

Starts : 11 NOV 2015 Environmental Solutions Expires: 10 NOV 2016

Sales Rep

1036 Seneca Benson

Status: PENDING

Acct Mngr 985 Chris Hunter

A: GENERATOR (1235) SITE INFORMATION

B: CUSTOMER (20348) INFORMATION

CROWN CORK & SEAL - PORTLAND 10200 N LOMBARD STREET PORTLAND, OR 97203

EPA ORD009024613 COWLITZ CLEAN SWEEP, INC

NAICS 3411

Neshap N 1121 COLUMBIA BLVD

LONGVIEW, WA 98632

Contact KEITH LINDQUIST/JOHN OSSMAN

Phone (503) 240-4296

TSDF Approval List No

C: WASTE INFORMATION

On File > MSDS No Analysis Yes Sample No

Waste Name STORM WATER SYSTEM WASH WATERS

WASHING TO STORM WATER CONVEYANCE SYSTEM. **Process**

Unused Commercial Product No

L-Liq

Spill Residue No

D: PHYSICAL CHARACTERISTICS OF WASTE

Top Color Various **Mid Color Bot Color** % Ash % Water

Odor None Layers Single Phased 0.8-1.0 Spec Grav BTU/Lbs 0 % Halogens 0

PH Range 6-8 Free Liq % Flash Test MSDS Flash Rnge NO FLASH Viscosity Low **Pumpable** Yes

(0

E: CHEMICAL COMPOSITION OF WASTE

Wash waters PCB's 0 Cyanides 0 (99 - 100 Phenolics 0

Lead

N/A

EPA Waste Yes

SubPart CC No

%) Silt, fines, organics Sulfides

Dioxins 0 Information Provided By

%) - 1

No

Laboratory

Sulfide Reactive No

Reg. Organics No

TOC <1%

F: METALS METHOD Total

Phys States

<500 PPM VOC

Arsenic

Barlum

Cadmium <1 Merc TCLP < 0.2

<5

Chromium <5 Selenium <1 **Merc Tot** <260 Silver <5 Nickel 0 0 Thallium

Cyanide Reactive No

n Zinc Copper 0 Chrome-6

G: OTHER CHARACTERISTICS OF WASTE

Ign. Solid No Explosive N/A Herbicides 0

Oxidizer No. Explosive No Ashastos Pesticides

Origin 1

<5

<100

Shock Sensitive No Radioactive No. Ammonia

State Waste No

NESHAPS No

Water Reactive No Infectious No TSCA No Waste Water No

CERCLA No

Reactive (Other) Medical No Universal Waste No

Form W101 Source G19 **EPA** Codes

F001

Categorical Discharge Standards

H: EPA / STATE WASTE IDENTIFICATION

State Codes UHC

No

CTW Category Organics

DW/EHW: DW

I: SHIPPING INFORMATION

Marine Pollutant No

Containers TT Tank Trucks Qty to Ship Now 1

Projected Volume 4000/Monthly

Debris No

DOT Descrip NA3082 WASTE OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (F001) 9 PGIII ERG(171)

J: SPECIAL DISPOSAL INSTRUCTIONS

WATER TREATMENT ONLY.

Waste Categs WATB13

Printed: 02 DEC 2015

Generator's Waste Profile 736142-00

Page

2

Status: PENDING

0 0 **(2)**

Stericycle

Starts : 11 NOV 2015 Environmental Solutions Expires: 10 NOV 2016 Sales Rep **Acct Mngr**

1036 Seneca Benson 985 Chris Hunter

GENERATOR CERTIFICATION

I hereby certify, as an authorized representative of the Generator named above, that Burlington Environmental, LLC has been fully informed of all information known about this waste, including but not limited to, the waste's generation process, composition, and physical characteristics, necessary to identify proper treatment and disposal of waste and this information is true and accurate. If this is an existing profile which is being renewed, I hereby ceptify that there have been no changes in this waste, chemical, physical, or regulatory designation since full characterization by sample testing.

Title F.V.f.

Burlington Environmental, LLC maintains the appropriate permits for and will accept the dangerous waste the generator is shipping as required by WAC 173-303-290(3).

Printed: 15 DEC 2015

Generator's Waste Profile 733717-00

Page

0 0 **D** • 6 0 0

Stericycle

Starts : 06 NOV 2015

Environmental Solut ns Expires: 05 NOV 2016

Sales Rep

B: CUSTOMER (20348) INFORMATION

1038 Seneca Benson

Status: PENDING

Acct Mngr 985 Chris Hunter

A: GENERATOR (1235) SITE INFORMATION

CROWN CORK & SEAL - PORTLAND

10200 N LOMBARD STREET PORTLAND, OR 97203

EPA ORD009024613 COWLITZ CLEAN SWEEP, INC.

Sample No

NAICS 3411

Analysis Yes

Neshap N 1121 COLUMBIA BLVD

LONGVIEW, WA 98632

Contact KEITH LINDQUIST/JOHN OSSMAN

TSDF Approval List No

Phone (503) 240-4296

MSDS No

C: WASTE INFORMATION

Waste Name

Process

STORM WATER SYSTEM CLEANING SOLIDS CLEANING OF STORM WATER CONVEYANCE SYSTEM.

Unused Commercial Product No

Spill Residue No

On File >

D: PHYSICAL CHARACTERISTICS OF WASTE

S-Sol Phys States

Top Color Various **Mid Color Bot Color** % Ash 0 n % Water

Odor None

Single Phased Layers Spec Grav 0.8-1.0 BTU/Lbs 0 % Halogens 0

Sulfides

PH Range 6-8

Free Liq % Flash Test Gen Knowledge Flash Rnge NO FLASH Viscosity High **Pumpable** No

E: CHEMICAL COMPOSITION OF WASTE

Silt, fines, organics

.01 -100 %)

Phenolics 0

PCB's 0 Cyanides 0 <500 PPM TOC >1% VOC

Dioxins 0 Information Provided By Laboratory

F: METALS METHOD TCLP

Arsenic <5 <100 Barium

Cadmium <1 Merc TCLP <0.2 Lead 31.4

Chromium <5 Selenium <1 Merc Tot <280 Silver Nickel 0 Thallium n

Zinc 0 Copper Chrome-6

G: OTHER CHARACTERISTICS OF WASTE

lan. Solid No Explosive N/A Herbicides 0

Oxidizer Asbestos

Explosive No N/A Pesticides 0

Shock Sensitive No Radioactive No Ammonia

Cyanide Reactive No Water Reactive No. Infectious No

Sulfide Reactive No. Reactive (Other) No

n

H: EPA / STATE WASTE IDENTIFICATION

Source G19

D007 D008 F002

Origin 1

EPA Waste Yes SubPart CC No

State Waste No **NESHAPS** No

TSCA No CERCLA No

Waste Water No Debris No Universal Waste No Reg. Organics No

Medical No

Form W409 **EPA** Codes **State Codes**

UHC

Categorical Discharge Standards No CTW Category N/A

DWIEHW: DW

I: SHIPPING INFORMATION

Marine Pollutant No.

Containers

Qty to Ship Now 1

Projected Volume 55/Onetime

DOT Descrip UN3077 WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (LEAD) 9 PGIII ERG(171)

J: SPECIAL DISPOSAL INSTRUCTIONS

Waste Categs INC13

Printed:

15 DEC 2015

Generator's Waste Profile 733717-00

Page

Status: PENDING

9 0 000 0 0 Environmental Solut ns Expires: 05 NOV 2016

Stericycle

Starts : 06 NOV 2015

Sales Rep

1036 Seneca Benson **Acct Mngr** 985 Chris Hunter

GENERATOR CERTIFICATION

I hereby certify, as an authorized representative of the Generator named above, that Burlington Environmental, LLC has been fully informed of all information known about this waste, including but not limited to, the waste's generation process, composition, and physical characteristics, necessary to identify proper treatment and disposal of waste and this information is true and accurate. If this is an existing profile which is being renewed, I hereby certify that there have been no changes in this waste, chemical, physical, or regulatory designation since full characterization by sample testing.

Zecter Fup

Burlington Environmental, LLC maintains the appropriate permits for and will accept the dangerous waste the generator is shipping as required by WAC 173-303-290(3).

Form Approved. OMB No. 2050-0039 Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Manifest Tracking Number 0069304 1. Generator D Number ORD 09024613 **UNIFORM HAZARDOUS WASTE MANIFEST** Generator's Name and Mailing Address Generator's Site Address (if different than mailing address) Crown Cork and Soal 10200 N. Lombard Street Pertiand, OR 97203 Multnomah Generator's Phone 6. Transporter 1 Company Name U.S. EPA ID Number CCS-A Division of PNE Corp. WAH000014944 7. Transporter 2 Company Name U.S. EPA ID Number 8. Designated Facility Name and Site Address U.S. EPA ID Number Burungton Environmental LLC Tacoma WAD020257945 1701 E. Alexander Ave. Tacoma, WA 98421-4108 U.S.A. 253-027-7508 Facility's Phone: 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 10. Containers 11. Total 12. Unit 9a 13. Waste Codes and Packing Group (if any)) Wt.Vol Quantity HM No. Type NA3082 VVaste Other Regulated Substances, Liquid, n.o.s. 1 G TI GENERATOR (F001), 9 PGIII 2500 14. Special Handling Instructions and Additional Information CCS Job/PO# 8515291/058994 15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. Generator's/Offeror's Printed/Typed Name Vear STEVY KUDY MRCOX II POUTER 16. International Shipments Export from U.S. Port of entry/exit: Transporter signature (for exports only): Date leaving U.S. TR ANSPORTER 17. Transporter Acknowledgment of Receipt of Materials Day Transporter 1 Printed/Typed Name Signature Month Year) two 15 Transporter 2 Printed/Typed Name Signature 18. Discrepancy 18a. Discrepancy Indication Space Туре Residue Partial Rejection Full Rejection Quantity U.S. EPA ID Number DESIGNATED FACILITY 18b. Alternate Facility (or Generator) D 🗸 🕆 10745 77Th Ave Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Year 15 15 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name Signature 341 EPA Form 8700-22 (Rev. 2-05) Previous editions are obsolete.

APPENDIX C

Photographs



Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No.

1

Date: 01-20-16

Direction Photo Taken:

North

Description:

Roof sample PB5-01: Sealer between brick.



Photo No.

Date: 01-20-16

Direction Photo Taken:

North

Description:

Roof sample PB6-01: Mastic





Client Name:

Mecox II Partners, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No. 60394964

Photo No.

Date: 02-11-16

Direction Photo Taken:

North

Description:

Sample PB-3-01: Red Paint



Photo No.

Date:

02-11-16

Direction Photo Taken:

North

Description:

Sample PB-4-01: Grey Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No.

5

Date: 02-11-16

Direction Photo

Taken:

North

Description:

Sample PB-12: Pink Paint



Photo No.

6

Date: 02-11-16

Direction Photo

Taken:

North

Description:

Sample PB-12: Pink Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No. 60394964

Photo No.

Date: 02-11-16

Direction Photo Taken:

North

Description:

Sample PB-7-01: Green Paint



Photo No.

Date: 02-11-16

Direction Photo Taken:

North

Description:

Sample PB-7-01: Green Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No. Date: 9 02-11-16

Direction Photo Taken:

North

Description:

Sample PB-4-02: Grey Paint



Photo No.

Date: 02-11-16

Direction Photo Taken:

West

Description:

Sample PB-7-01: Green Paint Roll-Up Doors





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

Photo No. 11

Date: 02-11-16

Direction Photo Taken:

Northwest

Description:

Sample PB-2-01: Yellow Paint



Photo No.

Date: 02-11-16 12

Direction Photo Taken:

Northwest

Description:

Sample PB-2-01: Yellow Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No.

Date: 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-7-02: Green Paint



Photo No.

Date: 02-11-16

Direction Photo

Taken: East

Description:

Sample PB-05: Grey Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No. 60394964

Photo No. 15 **Date:** 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-7-02: Green Paint on Door



Photo No.

Date: 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-09: White Paint on concrete





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No. 17 **Date:** 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-08: Forest Green Paint on Roll-Up Door



Photo No.

Date: 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-08: Forest Green Paint on Roll-Up Door





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No. 60394964

Photo No. 19 **Date:** 02-11-16

Direction Photo Taken:

South

Description:

Sample PB-7-03: Green Paint



Photo No.

Date: 02-11-16

Direction Photo Taken: South

Description:

Sample PB-7-04: Green Paint on Door





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No. 60394964

Photo No. 21 **Date:** 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-3-02: Red Paint on Hydrant Shack



Photo No.

Date: 02-11-16

Direction Photo Taken:

South

Description:

Sample PB-2-02: Yellow Paint





Client Name:

Mecox Partners II, LLC

Site Location:

Former Crown Cork and Seal Facility, Portland, OR

Project No.

60394964

Photo No. 23 **Date:** 02-11-16

Direction Photo Taken:

East

Description:

Sample PB-1-03: Yellow Paint



Photo No. 24

Date: 02-11-16

Direction Photo Taken:

West

Description:

Sample PB-13



APPENDIX D

Field Notes

URS CORPORATION

Project Name/URS Job Number: ME COX
Address: 10200 N. Combard Portland OR URS Inspector: Stan state & Bruce Cassem

the state of the s			The state of the s	State of the state	
HSA No.	Material Description (color, pattern, size, substrate, layer order - describe layers in order from top to substrate)	Location of HSA (list all rooms and surfaces HSA occurs in – DO NOT list sample locations, record those on your field figure)	HSA Quantity	# of samples/ VN/ AS	Photo? (Check)
PB	yellow	Window Frames Spacers between		111	
-01		windows, and window sills			V
-02	Traffic Paint Yellow	on metal substra railing con'C'wall Bullard on A wall	ight	1	
	Red	Fire Shacks		1	
03		and hydrants			
-04	Grey	walls, window sills, and Sliding or voll up door Krames		9	
05	Dark grey	concrete walls			
06	Blue	'C' wall on stair case		1	
	Green	on window sills		1144	
07		and spacers s and frames, wooden voll up doors & she	:k		
08	Dark grown or forest Green	on metal roll up door B' wall		1.1	
09	white	B'wall on concrete		1	

VN: Visually Negative, AS: Assumed to be asbestos-containing

Ī	TR	2	C) E	PO	RA	TI	0	N
ĸ.			\mathbf{v}	UK	UFU	I A	111	v	1.4

Project Name/URS Job Number: WECOX	Date: 2/11/16
Address:	URS Inspector:

HSA No.	Material Description (color, pattern, size, substrate, layer order - describe layers in order from top to substrate)	Location of HSA (list all rooms and surfaces HSA occurs in – DO NOT list sample locations, record those on your field figure)	HSA Quantity	# of samples/ VN/ AS	Photo? (Check)
PB	white Oxidized Powder	Between Tiles		9	/
10		Face			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
4	Brick	on face of walls		+1	
11		1. 10			\bigvee
	Maure or finkish	on "A" wall		l	
12		door way and window sill			V
	Silver paint shing	post on ""wall			
13					
		<u> </u>			

VN: Visually Negative, AS: Assumed to be asbestos-containing

J.\Projects\ActiveJobs\Property Redevelopment\Administration\Forms\Asbestos HSA Log Sheet v2.doc



WALK-IN SAMPLE SUBMITTAL FORM

Asbestos

의 Lead

→ Mold

Please call for TAT less than 24 Hours

□ Other (specify) PCBs

Laboratory | Management | Training

First	Bruce	Last Cas	ssem		Company AECOM
Address	111 SW C	olumbia Su	ite 1500		Cell (503)753 - 5025
	Portland O	regon			Email bruce.cassem@aecom.com
Phone	503.948.72	254			
				Т	urn Around Time
Pricing	1-Hr	2-Hr	4-Hr	1-Day	_ 1 Hour (Asbestos only)
Asbestos	70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)
Lead	N/A	70.00	60.00	40.00	→ 2 Hours (Lead only)
Mold	N/A	N/A	105.00	82.50	≤ 24 Hours (Asbestos, Lead, & Mold)

Total Number of Samples 9

	Sample ID	Description	A/R
1	PCB-1	Window glazing front entrance PCB ONLY	
2	PCB-2	Window sealer front entrance PCB ONLY	
3	PCB-3	Expansion joint seal front entrance PCB ONLY	
4	PCB-4	Sealer from front window panels PCB ONLY	
5	PCB-5	light green tile test for PCB and Lead	
6	PCB-6	Light Tan tile. Test for PCB and Lead	
7	PCB-7	Window seal C side PCB ONLY	
8	PCB-8	Light Yellow tile. Test for PCB and Lead	
9	PCB-9	Door Seal A side PCB ONLY	
10			

Print Name		Signature	Company	Date	Time
Sampled by	RUCE CASSEM	8	AECOM	2/11/2014	
Relinquish by	BAKE CASSEN		AFEM	2/12/2014	1000
Office Use Only	Print Name	Signature	Company	Date	Time
Received by Analyzed by Called by Faxed/Email by					



9

10

PB-03-01

PB-03-02

WALK-IN SAMPLE SUBMITTAL FORM

J	Asbesto)
-	1 1200366	•

→ Mold

Other (specify)

SERVI	CES							
aboratory Manag	gement Training							
Fir	st Bruce	Last C	assem		Company AECOM			
Addre	ss <u>111 SW</u>	Columbia S	Suite 1500	Cell (503) 753 - 5025				
	Portland	Oregon			Email bruce. cassem@aecom.com			
Phor	ne <u>503.948.</u>	7254						
					Turn Around Time			
Pricing	g 1-Hr	2-Hr	4-Hr	1-Day	∟ 1 Hour (Asbestos only)			
Asbesto	s 70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)			
Lead	A/N b	70.00	60.00	40.00	→ 2 Hours (Lead only)			
Molo	A/N E	N/A	105.00	82.50				
					Please call for TAT less than 24 Hours			
Total Nu	mber of Sa	amples _						
San	nple ID		Desc	ription		A/R		
1 PB-0	01-01		YELL	OW PAIN	IT WINDOWS AND SILLS			
2 PB-0	01-02		YELL	OW PAIN	IT WINDOWS AND SILLS			
3 PB-0	01-03		YELL	OW PAIN	IT WINDOWS AND SILLS			
4 PB-0	01-04		YELL	OW PAIN	IT WINDOWS AND SILLS			
5 PB-0	01-05		YELL	OW PAIN	IT WINDOWS AND SILLS			
6 PB-0	01-06		YELL	OW PAIN	IT WINDOWS AND SILLS			
7 PB-0	02-01		YELL	OW PAIN	IT BULLARDS			
8 PB-0	02-02		YELL	OW PAIN	IT BULLARDS			

l P	Print Name	Signature	Company	Date	Time
	BRUCE CASSEN		DECOM	2/11/2010	
Relinquish by	Stare Cassem	7	facom	2/12/201	6 1000
Office Use Only	Print Name	Signature	Company	Date	Time
Received by Analyzed by					
Called by Faxed/Email by					

RED PAINT

RED PAINT



WALK-IN **SAMPLE SUBMITTAL FORM**

_	Aspestos	
~	Lead	
J	Mold	
	Other (specify)	

Laboratory | Management | Training

First	Bruce	Last C	Cassem		Company AECOM
Address	111 SW	Columbia	Suite 1500		Cell (503)753 - 5025
	Portland	Oregon			Email bruce. cassem@aecom.com
Phone	503.948.	7254			
					Turn Around Time
Pricing	1-Hr	2-Hr	4-Hr	1-Day	∟ 1 Hour (Asbestos only)
Asbestos	70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)
Lead	N/A	70.00	60.00	40.00	→ 2 Hours (Lead only)
Mold	N/A	N/A	105.00	82.50	의 24 Hours (Asbestos, Lead, & Mold)
					Please call for TAT less than 24 Hours
Total Num	ber of Sa	amples _			

	Sample ID	Description	A/R
1	PB-03-03	RED PAINT	
2	PB-04-01	GREY PAINT	
3	PB-04-02	GREY PAINT	
.4	PB-05-01	DARK GREY	
5	PB-06-01	BLUE PAINT	WA
6	PB-07-01	GREEN PAINT	
7	PB-07-02	GREEN PAINT	-
8	PB-07-03	GREEN PAINT	
9	PB-07-04	GREEN PAINT	
10	PB-07-05	GREEN PAINT	

Pr	rint Name	Signature	Company	Date	Time
Sampled by	BRUE Casson		- Jeon	2/11/2016	
Relinquish by	Brue Cussem		Jean	2/12/2016	1000
Office Use Only	Print Name	Signature	Company	Date	Time
Received by Analyzed by Called by Faxed/Email by					



WALK-IN SAMPLE SUBMITTAL FORM

9	1	Asbestos	
	1	Lead	
,		Mold	
	0	Other (specify)	

Laborato	ory Manager	ment Training									STATE OF THE PARTY
	First	Bruce	Last C	asser	n		Com	pany AEC	MC		
	Address	111 SW	Columbia S	Suite ⁻	1500			Cell (503	753	5025	
		Portland	Oregon				E	_{mail} bruce	e.cassem@	aecom.com	
	Phone	503.948.		V			*				
							Turn	Around Tim	٩		2
	Pricing	1-Hr	2-Hr	4-H	i e	1-Day		L Hour (Asb			
	_					-			- (0)	0.14-15	
F	Asbestos	70.00	65.00	60.0		40.00			bestos, Lead,	& Mold)	
	Lead	N/A	70.00	60.0	00	40.00	_ 2	2 Hours (Lea	ad only)		
	Mold	N/A	N/A	105.	.00	82.50	1 2	24 Hours (A	sbestos, Leac	d, & Mold)	
							Ple	ase call for	TAT less than	24 Hours	
Tota	al Nun	ber of Sa	amples 2	8							
	Samp			1	– Desc	cription					, A/R
1	PB-0	7-06			GRE	EN PAINT					
2	PB-0		-			EN PAINT					
3	PB-0					K GREEN F	PAIN	Γ			
4	PB-09	9-01			WHI	TE CRYSTA	ALINE	POWDE	ER		
5	PB-1	0-01			WHI	TE CRYSTA	ALINE	POWDE	ER		
6	PB-1	1-01			TILE	GREEN					
7	PB-1					ED PINK PA	TAIL				
8	PB-1	3-01			SILV	ER PAINT					
9											
Same	pled by	Print Name		Sig	gnature			Company		Date	Time
	uish by										
1	e Use Or Received I	Print Na	me		Signat	ure		Company		Date	Time

Called by Faxed/Email by

APPENDIX E

Analytical Laboratory Reports

February 18, 2016

Bruce Cassem

URS Corporation - Portland

111 SW Columbia, Suite 1500

Portland, OR 97201-



RE: Metals Analysis; NVL Batch # 1603787.00

Dear Mr. Cassem,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director



4708 Aurora Ave N, Seattle, WA 98103

p 206.547.0100 | f 206.634.1936 | www.nvllabs.com



Matrix: Paint

Analysis Report

Total Lead (Pb)

Client: URS Corporation - Portland Address: 111 SW Columbia, Suite 1500

Portland, OR 97201-

Batch #: 1603787.00

Method: EPA 3051/7000B

Client Project #: 60394964 -33765194.00002

Date Received: 2/17/2016

Samples Received: 19 Samples Analyzed: 19

Attention: Mr. Bruce Cassem

Project Location: N-A

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
16178341	PB-01-01	0.2085	48.0	8500.0	0.8500
16178342	PB-01-02	0.2155	46.0	520.0	0.0520
16178343	PB-01-03	0.1975	51.0	9600.0	0.9600
16178344	PB-01-04	0.2127	47.0	7000.0	0.7000
16178345	PB-01-05	0.2075	48.0	7600.0	0.7600
16178347	PB-02-01	0.1898	53.0	3300.0	0.3300
16178348	PB-02-02	0.1823	55.0	220.0	0.0220
16178349	PB-03-01	0.1716	58.0	11000.0	1.1000
16178350	PB-03-02	0.1973	51.0	610.0	0.0610
16178351	PB-03-03	0.1885	53.0	440.0	0.0440
16178352	PB-04-01	0.1609	62.0	140.0	0.0140
16178353	PB-04-02	0.2149	47.0	96.0	0.0096
16178354	PB-05-01	0.1784	56.0	18000.0	1.8000
16178355	PB-06-01	0.2110	47.0	< 47.0	<0.0047
16178356	PB-07-01	0.2079	48.0	29000.0	2.9000
16178357	PB-07-02	0.2124	47.0	22000.0	2.2000
16178358	PB-07-03	0.2007	50.0	22000.0	2.2000
16178359	PB-07-04	0.2150	47.0	11000.0	1.1000
16178360	PB-07-05	0.1970	51.0	26000.0	2.6000

Sampled by: Client

Analyzed by: Yasuyuki Hida Date Analyzed: 02/17/2016
Reviewed by: Nick Ly Date Issued: 02/18/2016

Nick Ly, Technical Director

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

'<' = Below the reporting Limit

RL = Reporting Limit

Note: Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2016-0217-23

LEAD LABORATORY SERVICES



4708 Aurora Ave N, Seattle, WA 98103

p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Company	URS Corporation - Portland	NVL Batch	Number 16	03787	.00
Address	111 SW Columbia, Suite 1500	TAT 1 Day	<i>y</i>		AH No
	Portland, OR 97201-	Rush TAT			
Project Manager	Mr. Bruce Cassem	Due Date	2/18/2016	Time	10:00 AM
Phone	(503) 222-7200	Email bruce	e.cassem@a	ecom.co	m

Project Nan	ne/Number: 6039496 -3376519	Project Location: N-A
Subcategory	Flame AA (FAA)	
Item Code	FAA-02	EPA 7000B Lead by FAA <paint></paint>

Fax

(503) 222-4292

Total Number of Samples ____19__ Rush Samples ___ Lab ID Sample ID Description A/R 16178341 PB-01-01 Α 2 16178342 PB-01-02 Α 16178343 PB-01-03 3 Α 4 16178344 PB-01-04 Α 5 16178345 PB-01-05 Α 6 16178347 PB-02-01 Α 7 16178348 PB-02-02 Α 8 16178349 PB-03-01 Α 9 16178350 PB-03-02 Α 10 16178351 PB-03-03 Α 11 | 16178352 PB-04-01 Α 12 | 16178353 PB-04-02 Α 13 16178354 Α PB-05-01 14 | 16178355 Α PB-06-01 15 16178356 PB-07-01 Α 16 | 16178357 PB-07-02 Α PB-07-03 Α 17 | 16178358 18 | 16178359 PB-07-04 Α

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	2/17/16	1000
Analyzed by	Yasuyuki Hida		NVL	2/17/16	
Results Called by					
Faxed Emailed					
Special		·			

Date: 2/17/2016 Time: 10:44 AM

Entered By: Maxwell Raymond

LEAD LABORATORY SERVICES



A/R

Α

Rush Samples ___

4708 Aurora Ave N, Seattle, WA 98103

p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Total Number of Samples 19

Sample ID

PB-07-05

Lab ID

19 16178360

Company	URS Corporation - Portland	NVL Batch Number 1603787.	.00
Address	111 SW Columbia, Suite 1500	TAT 1 Day	AH No
	Portland, OR 97201-	Rush TAT	
Project Manager	Mr. Bruce Cassem	Due Date 2/18/2016 Time	10:00 AM
Phone	(503) 222-7200	Email bruce.cassem@aecom.cor	n
		Fax (503) 222-4292	
Project Name/I	Number: 60394964 Project Lo	ocation: N-A	
Subcategory Fla	ame AA (FAA)		
Item Code FA	A-02 EPA 7000B Lead by FA	AA <paint></paint>	
	•	•	

Description

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	2/17/16	1000
Analyzed by	Yasuyuki Hida		NVL	2/17/16	
Results Called by					
Faxed Emailed					
Special		•	·	·	

Date: 2/17/2016 Time: 10:44 AM

Entered By: Maxwell Raymond



WALK-IN SAMPLE SUBMITTAL FORM

→ Asbestos

∠ Lead

1603787

Labo	oratory Managem	ent Training				
	First	Bruce	Last C	assem		Company AECOM
	Address	111 SW (Columbia	Suite 1500)	Cell (503) 753 - 5025
		Portland (Oregon			Email bruce. cassem@aecom.com
	Phone	503.948.7	7254			
						Turn Around Time
	Pricing	1-Hr	2-Hr	4-Hr	1-Day	∟ 1 Hour (Asbestos only)
	Asbestos	70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)

Lead N/A 70.00 60.00 40.00 → 2 Hours (Lead only) Mold N/A 105.00 82.50 N/A

Please call for TAT less than 24 Hours

Total Number of Samples

	Sample ID	Description	I A/R
1	PB-01-01	YELLOW PAINT WINDOWS AND SILLS	
2	PB-01-02	YELLOW PAINT WINDOWS AND SILLS	
3	PB-01-03	YELLOW PAINT WINDOWS AND SILLS	
_ 4	PB-01-04	YELLOW PAINT WINDOWS AND SILLS	
5	PB-01-05	YELLOW PAINT WINDOWS AND SILLS	
6	PB-01-06	YELLOW PAINT WINDOWS AND SILLS	
7	PB-02-01	YELLOW PAINT BULLARDS	
8	PB-02-02	YELLOW PAINT BULLARDS	
9	PB-03-01	RED PAINT	
10	PB-03-02	RED PAINT	

Print Name	Signature	Company	Date	Time
Sampled by Bruce	CASSEN (P)	DELOM	2/11/2016	2
Relinquish by Bruce	Cassim 2	+ Scom	2/12/2011	0 1000
Office Use Only)		W.
Print Nam Received by		Company	Date Zirliy	Time 1000 Rectly
Analyzed by				
Called by				



WALK-IN SAMPLE SUBMITTAL FORM

J	Ask	
ਪ	Lea	1603787
Ĺ	Мо	1000101
	Other (speci	ту)

actory (monagem	idit Iraliang				
First	Bruce	Last C	Cassem		Company AECOM
Address	111 SW (Columbia	Suite 1500		Cell (503) 753 - 5025
	Portland	Oregon		-	Email bruce. cassem@aecom.com
Phone	503.948.	7254			
					Turn Around Time
Pricing	1-Hr	2-Hr	4-Hr	1-Day	∟ 1 Hour (Asbestos only)
Asbestos	70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)
Lead	N/A	70.00	60.00	40.00	→ 2 Hours (Lead only)
Mold	N/A	N/A	105.00	82.50	
					Please call for TAT less than 24 Hours

Total Number of Samples

	Sample ID	Description	A/R
1	PB-03-03	RED PAINT	
2	PB-04-01	GREY PAINT	
3	PB-04-02	GREY PAINT	
.4	PB-05-01	DARK GREY	
5	PB-06-01	BLUE PAINT	
6	PB-07-01	GREEN PAINT	
7	PB-07-02	GREEN PAINT	
8	PB-07-03	GREEN PAINT	
9	PB-07-04	GREEN PAINT	
10	PB-07-05	GREEN PAINT	

Print Name	Signature	Company	Date	Time
Sampled by BRINE	Casson C	- Jeon	2/11/2016	
Relinquish by Bruce	Cussem 2	Jeon	2/12/2016	1000
Office Use Only				
Print Nam	ne Signature	Company	Date	Time
Received by	Signature Signature	Company	2/17/1 v	
1/1	Signature Signature			Time bookeky

February 18, 2016

Bruce Cassem

URS Corporation - Portland

111 SW Columbia, Suite 1500

Portland, OR 97201-



RE: Metals Analysis; NVL Batch # 1603788.00

Dear Mr. Cassem,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director





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p 206.547.0100 | f 206.634.1936 | www.nvllabs.com



Analysis Report

Total Lead (Pb)

Client: URS Corporation - Portland Address: 111 SW Columbia, Suite 1500

Portland, OR 97201-

Batch #: 1603788.00

Matrix: Paint Method: EPA 3051/7000B

Client Project #: 60394964 -33765194.00002

Date Received: 2/17/2016

Samples Received: 8 Samples Analyzed: 8

Attention: Mr. Bruce Cassem

Project Location: N-A

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
16178361	PB-07-06	0.1905	53.0	25000.0	2.5000
16178362	PB-07-07	0.2184	46.0	33000.0	3.3000
16178363	PB-08-01	0.2160	46.0	160.0	0.0160
16178364	PB-09-01	0.1809	55.0	19000.0	1.9000
16178365	PB-10-01	0.2053	49.0	< 49.0	<0.0049
16178366	PB-11-01	0.1985	50.0	70.0	0.0070
16178367	PB-12-01	0.1719	58.0	10000.0	1.0000
16178368	PB-13-01	0.1918	52.0	1300.0	0.1300

Sampled by: Client

Analyzed by: Yasuyuki Hida Date Analyzed: 02/17/2016
Reviewed by: Nick Ly Date Issued: 02/18/2016

Nick Ly, Technical Director

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

'<' = Below the reporting Limit

RL = Reporting Limit

Note: Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2016-0217-20

NVL Laboratories, Inc.

LEAD LABORATORY SERVICES



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Company URS Corporation - Portland			NVL Batch Number 1603788.00			3.00		
	Address	11 SW Columbia, Suite 1500		TAT 1Da				
		Portland, OR 97201-						
Projec	ct Manager	Mr. Bruce Cassem		Due Date	2/18/2016	Time	10:00 AM	
	Phone	(503) 222-7200		Email bruc	e.cassem@a	aecom.co	om	
				Fax (503	3) 222-4292			
Proje	ect Name/I	Number: ⁶⁰³⁹⁴⁹⁶⁴ -33765194.0000	Project Loc	cation: N-A				
Subca	ategory Fla	ame AA (FAA)						
Iter	m Code FA	A-02 EPA	7000B Lead by FAA	\ <paint></paint>				
То	tal Numb	per of Samples8					Rush Samples	
	Lab ID	Sample ID	Description					A/R
1	16178361	PB-07-06						Α
2	16178362	PB-07-07						Α
3	16178363	PB-08-01						Α
4	16178364	PB-09-01						Α
5	16178365	PB-10-01						Α
6	16178366	PB-11-01						Α
7	16178367	PB-12-01						Α

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	2/17/16	1000
Analyzed by	Yasuyuki Hida		NVL	2/17/16	
Results Called by					
Faxed Emailed					
Special Instructions:	-	'			

Date: 2/17/2016 Time: 10:52 AM

8 16178368

PB-13-01

Entered By: Maxwell Raymond



WALK-IN SAMPLE SUBMITTAL FORM

_	Asbesto:
_	

→ Mold

■ Other (:

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Laboratory | Management | Training

First	Bruce Last Cassem				Company AECOM
Address	111 SW Columbia Suite 1500				Cell (503) 753 - 5025
	Portland C	Portland Oregon			Email bruce.cassem@aecom.com
Phone	503.948.72	254			
	¥				Turn Around Time
Pricing	1-Hr	2-Hr	4-Hr	1-Day	∟ 1 Hour (Asbestos only)
Asbestos	70.00	65.00	60.00	40.00	☐ 4 Hours (Asbestos, Lead, & Mold)
Lead	N/A	70.00	60.00	40.00	→ 2 Hours (Lead only)
Mold	N/A	N/A	105.00	82.50	의 24 Hours (Asbestos, Lead, & Mold)
					Please call for TAT less than 24 Hours

Total Number of Samples 28

	Sample ID	Description	A/R
1	PB-07-06	GREEN PAINT	
2	PB-07-07	GREEN PAINT	
3	PB-08-01	DARK GREEN PAINT	
4	PB-09-01	WHITE CRYSTALINE POWDER	
5	PB-10-01	WHITE CRYSTALINE POWDER	
6	PB-11-01	TILE GREEN	
7	PB-12-01	FADED PINK PAINT	
8	PB-13-01	SILVER PAINT	
9			
10			

1	Print Name	Signature	Company	Date	Time
Sampled by					
Relinquish by					
ت Office Use Ot	nlv			1	
	Print Name	Signature	Company	Date	Time
Received I	Print Name	Signature	Company	Date 2117114	Time 1000 Feel
Analyzed l	Print Name Dy Ways	Signature	Company		
Received l	Print Name Dy Way Print Name Dy Dy Dy	Signature	Company		

February 18, 2016

Bruce Cassem

URS Corporation - Portland

111 SW Columbia, Suite 1500

Portland, OR 97201-



RE: Metals Analysis; NVL Batch # 1603798.00

Dear Mr. Cassem,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director





NVL Laboratories, Inc.

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Analysis Report

Total Lead (Pb)

Client: URS Corporation - Portland Address: 111 SW Columbia, Suite 1500

Portland, OR 97201-

Batch #: 1603798.00

Matrix: Wipe Method: EPA 3051/7000B

Client Project #: 60394964 -33765194.00002

Date Received: 2/17/2016 Samples Received: 1

Samples Analyzed: 1

Attention: Mr. Bruce Cassem

Project Location: N-A

Lab ID	Client Sample #	Element	Sample sq ft	RL ug/ sq ft	Results in ug/wipe	Results in ug/sq. ft
16178508	PB-01-06	Lead (Pb)	1.00	10.0	25.0	25.0

Sampled by: Client

ug/ sq. ft. =Micrograms per square foot

Analyzed by: Yasuyuki Hida Date Analyzed: 02/17/2016 Reviewed by: Nick Ly Date Issued: 02/18/2016

Nick Ly, Technical Director

'<' = Below the reporting Limit

ug / wipe = Micrograms per wipe Note: Method QC results are acceptable unless stated otherwise. Concentration (ug/ft²) not reported if sample area is zero.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

page 2 of 4 Bench Run No: 2016-0217-21

NVL Laboratories, Inc.

LEAD LABORATORY SERVICES



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Company URS Corporation - Portland Address 111 SW Columbia, Suite 1500 Portland, OR 97201- Project Manager Mr. Bruce Cassem			NVL Batch Number	1603798	3.00		
			TAT 1 Day	AH No			
				Rush TAT			
Phone (503) 222-7200		Email bruce.cassem@aecom.com					
	_			Fax (503) 222-429	92		
Proj	ject Name/N	umber: 60394964 -33765194.0000	Project Loca	ation: N-A			
Subc	ategory Flar	me AA (FAA)					
lte	m Code FAA	N-04 EPA 7	000B Lead by FAA	<wipe></wipe>			
			•	·			
To	otal Numbe	er of Samples1				Rush Samples	
	Lab ID	Sample ID	Description				A/R
1	16178508	PB-01-06					Α

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	2/17/16	1000
Analyzed by	Yasuyuki Hida		NVL	2/17/16	
Results Called by					
☐ Faxed ☐ Emailed					
Special Recei	ved confirmation of a	rea @ 1230 2/17, 1 s	cq foot		

Date: 2/17/2016 Time: 12:43 PM

Entered By: Maxwell Raymond

Maxwell Raymond

1603798

From:

Cassem, Bruce <bru>
<bru>
cassem@aecom.com>

Sent:

Wednesday, February 17, 2016 12:03 PM Maxwell Raymond

To: Subject:

Re: Your PCB/Pb Samples

Yes

Bruce R. Cassem Senior Geologist Safety Manager

AECOM 111 SW Columbia, Suite 1500 Portland, OR 97201-5850 Tel: 503.753.5025

On Feb 17, 2016, at 11:10 AM, Maxwell Raymond < maxwell.r@nvllabs.com > wrote:

For your wipe sample, what was the area for that sample? E.g. 1 square foot...

Thanks and regards,

Maxwell Raymond

Office Supervisor

NVL Laboratories, Inc.

Email: maxwell.r@nvllabs.com

4708 Aurora Ave N Seattle, WA 98103

1.888.NVL.LABS (685.5227)

<image001.jpg><image002.jpg>

Tel: 206.547.0100 Fax: 206.634.1936 www.nvllabs.com

<image003.jpg>

<image004.gif> Please consider the environment before printing this email message.

Disclaimer:

This message contains confidential information and is intended only for use by the intended recipients. If you are not the intended recipient you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake and delete this e-mail from your system. E-mail transmission cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. The sender therefore does not accept liability for any errors or omissions in the contents of this message, which arise as a result of e-mail transmission. If verification is required please request a hard-copy version.

From: Cassem, Bruce [mailto:bruce.cassem@aecom.com]

Sent: Wednesday, February 17, 2016 10:56 AM
To: Maxwell Raymond <maxwell.r@nvllabs.com>

Subject: RE: Your PCB/Pb Samples

Raymond, Thank you

February 26, 2016



Mr. Bruce Cassem
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-

Re: NVL Batch 1604011.00

Project Name/Number: 60394964-33765194.00002

Project location: NA

Dear Mr. Cassem,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

- -Case Narrative & Definition of Data Qualifiers
- -Analytical Test Results
- -Applicable QC Summary
- -Client Chain-of-Custody (CoC)
- -NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Moderation

Nick Ly, Technical Director

Enclosure: Sample Results



Case Narrative:

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from URS Corporation-Portland for Project number: 60394964-33765194.00002. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported based on dry weight in milligram per kilogram (mg/kg) for PCB samples as shown on the analytical reports.

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Definition Appendix

Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the instrument.
В	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
LFS	Laboratory Fortified Spike
Limits	The upper and lower control limits for spike recoveries.
LN	Quality control sample is outside of control limits. This analyte was not detected in the sample.
LOQ	Limit of quantitation(same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology

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Definition Appendix

Terms

PPM Parts per Million.

QC Batch Group Quality Control Batch Group. The entity that links analytical results

and supporting quality control results.

R The data are not reliable due to possible contamination or loss of

material during preparation or analysis. Re-sampling and reanalysis

are necessary for verification.

RL Reporting Limit. The minimum concentration that can be quantified

under routine operating conditions.

RPD Relative Percent Difference. The relative difference between

duplicate results(matrix spike, blank spike, or samples duplicate)

expressed as a percentage.

RPD Limit The maximum RPD allowed for a set of duplicate

measurements(see RPD).

SMI Surrogate has matrix interference.

Spike Conc. The measured concentration, in sample basis units, of a spiked

sample.

SURR-ND Surrogate was not detected due to matrix interference or dilution.

ug/m3 Micrograms per cubic meter.

ug/mL Micrograms per milliliter

mg/Kg milligram per kilogram

ORGANICS LABORATORY SERVICES



	Camana	LIDS Corporation [Portland	NVL Batch Number 16	\$04011.00	
			Portland Suite 1500			
	Address		- Suite 1500		АП1_	
Project Manager Phone					Time 11:20 AM	
					ecom.com	
		(505) 222-1200	-		lecom.com	
Proj	ject Name/I	Number: ⁶⁰³⁹⁴⁹⁶⁴ -33765194.	00002 Project Lo	cation: N-A		
		antitative analysis				
116	ill code of	RG-05 N	flethod 8082 PCB Aroc	SIOIS SDUIKS		
To	otal Numb	per of Samples_	9		Rush Samples _	
	Lab ID	Sample ID	Description			A/R
1	16179487	PCB-1				Α
2	16179488	PCB-2				А
3	16179489	PCB-3				А
4	16179490	PCB-4				А
5	16179491	PCB-5				Α
6	16179492	PCB-6				А
7	16179493	PCB-7				Α
8	16179494	PCB-8				Α
9	16179495	PCB-9				А

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Emailed by Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond ,	Λ	NVL	2/19/16	1120
Analyzed by	Erelyn Almh	Soduln	NVL	2/22/16	16:30
Results Called by	0				
Faxed Emailed					
Special Original Instructions:	al Batch 1603784,****	* 0.1mg/Kg****			

Entered By: Maxwell Raymond

Date: 2/19/2016

Time: 1:06 PM

1 of 1

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ANALYSIS REPORT



Polychlorinated Biphenyls by Gas Chromatography

Client URS Corporation Samples Received*

SDG Number 1604011.00 Analyzed By Evelyn Ahulu

Date Reported 02/26/2016 Samples Analyzed* 9

Project Number 60394964-33765194.00002 Analysis Method 8082A

Location NA Preparation Method 3546PR (PCB)

* for this test only

9

Sample Number	PCB-1	Received	02/19/2016
Lab Sample ID	16179487	Matrix	Material

Initial Sample Size 5.1146 gm Units of Result mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.039	< 0.039	02/25/2016
Aroclor-1221	0.039	< 0.039	02/25/2016
Aroclor-1232	0.039	< 0.039	02/25/2016
Aroclor-1242	0.039	< 0.039	02/25/2016
Aroclor-1248	0.039	< 0.039	02/25/2016
Aroclor-1254	0.039	0.082	02/25/2016
Aroclor-1260	0.039	< 0.039	02/25/2016
PCBs. Total	0.039	0.082	

Comments: Window glazing front entrance; Reporting limit raised due to dilution (interference).

Sample Number	PCB-2	Received	02/19/2016
Lab Sample ID	16179488	Matrix	Material
Initial Sample Size	5.2672 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.038	< 0.038	02/25/2016
Aroclor-1221	0.038	< 0.038	02/25/2016
Aroclor-1232	0.038	< 0.038	02/25/2016
Aroclor-1242	0.038	< 0.038	02/25/2016
Aroclor-1248	0.038	< 0.038	02/25/2016
Aroclor-1254	0.038	< 0.038	02/25/2016
Aroclor-1260	0.038	< 0.038	02/25/2016
PCBs, Total	0.038	<0.038	

Comments: Window sealer front entrance; Reporting limit raised due to dilution (interference).



Polychlorinated Biphenyls by Gas Chromatography

Sample Number	PCB-3	Received	02/19/2016
Lab Sample ID	16179489	Matrix	Material
Initial Sample Size	5.0166 gm	Units of Result	mg/Kg, as received
Analyte		RL	Final Result Analysis Date
Aroclor-1016		0.040	< 0.040 02/22/2016
Aroclor-1221		0.040	< 0.040 02/22/2016
Aroclor-1232		0.040	< 0.040 02/22/2016
Aroclor-1242		0.040	< 0.040 02/22/2016
Aroclor-1248		0.040	< 0.040 02/22/2016
Aroclor-1254		0.040	< 0.040 02/22/2016
Aroclor-1260		0.040	< 0.040 02/22/2016
PCBs, Total		0.040	<0.04
			10.01
	seal front entrance; Reporting limit raised		
Comments: Expansion joint	seal front entrance; Reporting limit raised		02/19/2016
Comments: Expansion joint		d due to dilution (interference).	
Sample Number Lab Sample ID	PCB-4	d due to dilution (interference). Received	02/19/2016
Sample Number Lab Sample ID Initial Sample Size	PCB-4 16179490	d due to dilution (interference). Received Matrix	02/19/2016 Material
	PCB-4 16179490	d due to dilution (interference). Received Matrix Units of Result	02/19/2016 Material mg/Kg, as received
Sample Number Lab Sample ID Initial Sample Size Analyte	PCB-4 16179490	Received Matrix Units of Result	02/19/2016 Material mg/Kg, as received Final Result Analysis Date
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016	PCB-4 16179490	Received Matrix Units of Result RL 0.040	02/19/2016 Material mg/Kg, as received Final Result Analysis Date 0.078 02/22/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232	PCB-4 16179490	Received Matrix Units of Result RL 0.040 0.040	02/19/2016 Material mg/Kg, as received Final Result Analysis Date 0.078 02/22/2016 < 0.040 02/22/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242	PCB-4 16179490	Received Matrix Units of Result RL 0.040 0.040 0.040	02/19/2016 Material mg/Kg, as received Final Result Analysis Date 0.078 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248	PCB-4 16179490	Received Matrix Units of Result RL 0.040 0.040 0.040 0.040	02/19/2016 Material mg/Kg, as received Final Result Analysis Date 0.078 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221	PCB-4 16179490	Received Matrix Units of Result RL 0.040 0.040 0.040 0.040 0.040 0.040	02/19/2016 Material mg/Kg, as received Final Result Analysis Date 0.078 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016 < 0.040 02/22/2016

Comments: Sealer from front window panels; Reporting limit raised due to dilution (interference).



Polychlorinated Biphenyls by Gas Chromatography

Sample Number	PCB-5	Received	02/19/2016
Lab Sample ID	16179491	Matrix	Material
Initial Sample Size	5.0338 gm	Units of Result	mg/Kg, as received
Analyte		RL	Final Result Analysis Date
Aroclor-1016		0.040	< 0.040 02/25/2016
Aroclor-1221		0.040	< 0.040 02/25/2016
Aroclor-1232		0.040	< 0.040 02/25/2016
Aroclor-1242		0.040	< 0.040 02/25/2016
Aroclor-1248		0.040	< 0.040 02/25/2016
Aroclor-1254		0.040	< 0.040 02/25/2016
Aroclor-1260	_	0.040	< 0.040 02/25/2016
PCBs, Total		0.040	<0.04
Comments: Light Green tile;	Reporting limit raised due to dilution (interference).		
<u> </u>	PCB-6	Received	02/19/2016
Sample Number		Received Matrix	02/19/2016 Material
Sample Number Lab Sample ID	PCB-6		
Sample Number Lab Sample ID Initial Sample Size	PCB-6 16179492	Matrix	Material
Sample Number Lab Sample ID Initial Sample Size Analyte	PCB-6 16179492	Matrix Units of Result	Material mg/Kg, as received
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221	PCB-6 16179492	Matrix Units of Result RL	Material mg/Kg, as received Final Result Analysis Date
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221	PCB-6 16179492	Matrix Units of Result RL 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232	PCB-6 16179492	Matrix Units of Result RL 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016	PCB-6 16179492	Matrix Units of Result RL 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248	PCB-6 16179492	Matrix Units of Result RL 0.039 0.039 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242	PCB-6 16179492	Matrix Units of Result RL 0.039 0.039 0.039 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016

Comments: Light Tan tile; Reporting limit raised due to dilution (interference).



Polychlorinated Biphenyls by Gas Chromatography

Sample Number	PCB-7	Received	02/19/2016
Lab Sample ID	16179493	Matrix	Material
Initial Sample Size	5.1828 gm	Units of Result	mg/Kg, as received
Analyte		RL	Final Result Analysis Date
Aroclor-1016		0.039	< 0.039 02/22/2016
Aroclor-1221		0.039	< 0.039 02/22/2016
Aroclor-1232		0.039	< 0.039 02/22/2016
Aroclor-1242		0.039	< 0.039 02/22/2016
Aroclor-1248		0.039	< 0.039 02/22/2016
Aroclor-1254		0.039	< 0.039 02/22/2016
Aroclor-1260		0.039	0.11 02/22/2016
PCBs, Total		0.039	0.11
Comments: Window seal C :	side; Reporting limit raised due to dilution (interference).		
	pcb-8	Received	02/19/2016
Sample Number		Received Matrix	02/19/2016 Material
Sample Number Lab Sample ID	PCB-8		
Sample Number Lab Sample ID Initial Sample Size	PCB-8 16179494	Matrix	Material
Sample Number Lab Sample ID Initial Sample Size Analyte	PCB-8 16179494	Matrix Units of Result	Material mg/Kg, as received
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221	PCB-8 16179494	Matrix Units of Result RL	Material mg/Kg, as received Final Result Analysis Date
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221	PCB-8 16179494	Matrix Units of Result RL 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016	PCB-8 16179494	Matrix Units of Result RL 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232	PCB-8 16179494	Matrix Units of Result RL 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248	PCB-8 16179494	Matrix Units of Result RL 0.039 0.039 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016
Sample Number Lab Sample ID Initial Sample Size Analyte Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242	PCB-8 16179494	Matrix Units of Result RL 0.039 0.039 0.039 0.039 0.039 0.039	Material mg/Kg, as received Final Result Analysis Date < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016 < 0.039 02/25/2016

Comments: Light Yellow tile; Reporting limit raised due to dilution (interference).



Polychlorinated Biphenyls by Gas Chromatography

Sample Number	PCB-9	Received	02/19/2	2016
Lab Sample ID	16179495	Matrix	Materia	al
Initial Sample Size	5.1185 gm	Units of Result	mg/Kg,	as received
Analyte		RL	Final Result	Analysis Date
Aroclor-1016		0.078	< 0.078	02/25/2016
Aroclor-1221		0.078	< 0.078	02/25/2016
Aroclor-1232		0.078	< 0.078	02/25/2016
Aroclor-1242		0.078	< 0.078	02/25/2016
Aroclor-1248		0.078	< 0.078	02/25/2016
Aroclor-1254		0.078	< 0.078	02/25/2016
Aroclor-1260		 0.078	< 0.078	02/25/2016
PCBs, Total		0.078	<0.078	

Comments: Door Seal A side; Reporting limit raised due to dilution (interference).



Quality Control Results

Project Number:	60394964-33765	194.00002	!	SDG Number: Project Manage		1604011 Bruce Cas	sem		
QC Batch(es):	Q376			Analysis Method	: 80	82A			
QC Batch Method: Preparation Date:	3546PR (PCB) 02/22/2016			Analysis Description:		lychlorinat romatogra	•	nenyls by Ga	as
Blank: MBLK-16040	11								
	Blank			RL		Control			
Analyte	Result	Units	DF			Limit			Qualifiers
Aroclor-1016	ND	mg/Kg	1	0.020		0.02			
Aroclor-1221	ND	mg/Kg	1	0.020		0.02			
Aroclor-1232	ND	mg/Kg	1	0.020		0.02			
Aroclor-1242	ND	mg/Kg	1	0.020		0.02			
Aroclor-1248	ND	mg/Kg	1	0.020		0.02			
Aroclor-1254	ND	mg/Kg	1	0.020		0.02			
Aroclor-1260	ND	mg/Kg	1	0.020		0.02			
PCBs, Total	ND	mg/Kg	1	0.020		0.02			
Surrogates:					% Rec				
Decachlorobiphenyl			1		109	40-140			
Lab Control Sample	: LFS-1604011								
	Blank Spike			Spike		% Rec			
Analyte	Result	Units	DF	Conc.	% Rec	Limits			Qualifiers
Aroclor-1254 Surrogates:	0.368	mg/Kg	1	0.400	92	40-140			
Decachlorobiphenyl			1		112	40-140			
Lab Control Sample	: LCS-1604011								
Lab Control Sample		up-160401	1						
	Blank Spike			Spike					
Analyte	Result	Units	DF	Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	0.332	mg/Kg	1	0.400	83	40-140			
	0.34			0.400	85	40-140	2	50	
Aroclor-1260	0.315	mg/Kg	1	0.400	79	40-140	_	50	
Curromotoo	0.34			0.400	85	40-140	8	50	
Surrogates:			4		05	10 110			
Decachlorobiphenyl			1		95 97	40-140 40-140			
					97	40-140			

NVL Laboratories, Inc.

4708 Aurora Ave N, Seattle, WA 98103 p 206.547.0100 | f 206.634.1936 | www.nvllabs.com



Surrogate Recovery Summary Report

Client URS Corporation		SDG Number	1604011	
Project 60394964-33765194.0000	12			
Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
PCB-1-DL	16179487DL1	Decachlorobiphenyl	83%	40-140
PCB-1-DL	16179487DL1	Tetrachloro-m-xylene	104%	40-140
PCB-2-DL	16179488DL1	Decachlorobiphenyl	65%	40-140
PCB-2-DL	16179488DL1	Tetrachloro-m-xylene	52%	40-140
PCB-3-DL	16179489DL1	Decachlorobiphenyl	53%	40-140
PCB-3-DL	16179489DL1	Tetrachloro-m-xylene	73%	40-140
PCB-4-DL	16179490DL1	Decachlorobiphenyl	64%	40-140
PCB-4-DL	16179490DL1	Tetrachloro-m-xylene	101%	40-140
PCB-5-DL	16179491DL1	Decachlorobiphenyl	79%	40-140
PCB-5-DL	16179491DL1	Tetrachloro-m-xylene	101%	40-140
PCB-6-DL	16179492DL1	Decachlorobiphenyl	82%	40-140
PCB-6-DL	16179492DL1	Tetrachloro-m-xylene	105%	40-140
PCB-7-DL	16179493DL1	Decachlorobiphenyl	41%	40-140
PCB-7-DL	16179493DL1	Tetrachloro-m-xylene	46%	40-140
PCB-8-DL	16179494DL1	Decachlorobiphenyl	77%	40-140
PCB-8-DL	16179494DL1	Tetrachloro-m-xylene	110%	40-140
PCB-9	16179495	Decachlorobiphenyl	101%	40-140
PCB-9	16179495	Tetrachloro-m-xylene	134%	40-140
LCS Dup-1604011	LCS Dup-1604011	Decachlorobiphenyl	97%	40-140
LCS-1604011	LCS-1604011	Decachlorobiphenyl	95%	40-140
LFS-1604011	LFS-1604011	Decachlorobiphenyl	112%	40-140
MBLK-1604011	MBLK-1604011	Decachlorobiphenyl	109%	40-140

^{*} Recovery outside limits

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: <u>1604011</u> Contract:

Determination: 8082 PCB Aroclors < Material>

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R000369	CCV1 1016-1260	PCB_2016-1-10	02/25/2016	Aroclor-1016	0.1	0.1	ug/mL	100	80-120
		PCB_2016-1-10	02/25/2016	Aroclor-1260	0.1	0.1	ug/mL	100	80-120
	CCV1 1254	PCB_2016-1-11	02/25/2016	Aroclor-1254	0.1	0.1	ug/mL	100	80-120
	ICV 1016-1254- 1260	PCB_2016-1-15	02/25/2016	Aroclor-1016	0.1	0.107	ug/mL	107	85-115
		PCB_2016-1-15	02/25/2016	Aroclor-1254	0.1	0.108	ug/mL	108	85-115
		PCB_2016-1-15	02/25/2016	Aroclor-1260	0.1	0.115	ug/mL	115	85-115
	CCV2 1016-1260	PCB_2016-1-10	02/25/2016	Aroclor-1016	0.1	0.107	ug/mL	107	80-120
		PCB_2016-1-10	02/25/2016	Aroclor-1260	0.1	0.102	ug/mL	102	80-120
	CCV2 1254	PCB_2016-1-11	02/25/2016	Aroclor-1254	0.1	0.088	ug/mL	88	80-120

% Rec = Percent recovery

FORM PAS-RSR-1.1 Date Printed: 2/26/2016 10:23 Page 1 of 1

^{* =} Percent recovery not within control limits



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-56705-1

Client Project/Site: Former Crown Cork and Seal -Mecox

For:

AECOM, Inc. 111 SW Columbia Street, Suite 1500 Portland, Oregon 97201

Attn: Steve Roberts

My Dls

Authorized for release by: 1/30/2016 3:35:26 PM Kelsey Devries, Project Management Assistant I (253)922-2310 kelsey.devries@testamericainc.com

Designee for

Sarah Murphy, Project Manager I (253)922-2310 sarah.murphy@testamericainc.com

····· Links ······

Review your project results through
Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Project/Site: Former Crown Cork and Seal -Mecox

TestAmerica Job ID: 580-56705-1

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Case Narrative

Client: AECOM, Inc.

Project/Site: Former Crown Cork and Seal -Mecox

TestAmerica Job ID: 580-56705-1

Job ID: 580-56705-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-56705-1

Comments

No additional comments.

Receipt

The samples were recei ed on 1/21/2016 12:05 PM the samples arri ed in lood condition, properly preser ed and, where re lired, on ice. The temperat re o the cooler at receipt was 2.3 □ C.

GC Semi VOA

Method(s) 8082: The DCB Decachlorobiphenyl S □rro □ate was o □tside the □etention Time ran □e □or the condirmation col □mn d □e to matrix inter □erences. S-1 (580-56705-1), (580-56705-A-1-C MS) and (580-56705-A-1-D MSD)

Method(s) 8082: The \Box PD o the laboratory control sample (LCS) and laboratory control standard diplicate (LCSD) for preparation batch 580-210124 reco ered o tside control limits for the followin analytes PCB-1016 PCB-1260

No additional analytical or □ality iss□es were noted, other than those described abo□e or in the Definitions/□lossary pa□e.

etals

No analytical or □□ality iss□es were noted, other than those described in the De(initions/□lossary pa□e.

General Chemistry

No analytical or □□ality iss□es were noted, other than those described in the Detinitions/□lossary pa□e.

Organic Prep

No analytical or □□ality iss□es were noted, other than those described in the Definitions/□lossary pa □e.

9

3

5

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8

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10

11

De initions Glossary

Client: AECOM, Inc. TestAmerica Job ID: 580-56705-1

Project/Site: Former Crown Cork and Seal -Mecox

□□ali⊡ers

GC Semi VOA

□□aliūer □ □ali ier Description □PD o the LCS and LCSD exceeds the control limits

Glossary

Abbreviation These commonly □se □ abbreviations may or may not be present in this report □ Listed □nder the □D□col□mn to desi□nate that the res□t is reported on a dry wei□ht basis

Percent □eco □ery **CFL** Contains Free Li □id Contains no Free Li □id **CNF**

DE D plicate error ratio (normali ed absol te di erence)

Dil Fac Dil ion Factor

DL, □A, □E, IN Indicates a Dil tion, □e-analysis, □e-extraction, or additional Initial metals/anion analysis o the sample

DLC Decision le ⊡el concentration MDA Minim m detectable acti ity **EDL Estimated Detection Limit** MDC Minim ☐m detectable concentration

MDL Method Detection Limit Minim□m Le□el (Dioxin) MLNC Not Calc ☐ated

Not detected at the reportin limit (or MDL or EDL i shown) ND

 $P \square L$ Practical □ □antitation Limit

□ □ality Control $\Box C$

□elati □e error ratio

 \Box L □eportin□ Limit or □e□□ested Limit (□adiochemistry)

 $\Box PD$ □elati□e Percent Di
□erence, a meas□re o□the relati□e di
□erence between two points

Toxicity E□□i□alent Factor (Dioxin) TEF Toxicity E□□i□alent □□otient (Dioxin) TE□

Client: AECOM, Inc.

TestAmerica Job ID: 580-56705-1

Project/Site: Former Crown Cork and Seal -Mecox

Client Sample ID: S-1

Date Collecte : 01 20 16 0 : 15

Lab Sample ID: 580-56705-1

□ atrix: Soli □

oate Receive	2:05							Percent Soli□	s: 📖
- □ etho□: 8082 - Polychlori	inate□ □inhenvl	s rPC⊟s⊟h	v Gas Chroi	matograj	nhv				
Analyte	•	□□ali⊡er	RL	•	□nit	D	Prepare□	Analy⊡e□	Dil □a
PCB-1016	ND		0.024	0.0012	m□/K□	₩	01/25/16 08:31	01/28/16 02:48	
PCB-1221	ND		0.027	0.0082	m□/K□	≎	01/25/16 08:31	01/28/16 02:48	
PCB-1232	ND		0.027	0.0053	m□/K□	≎	01/25/16 08:31	01/28/16 02:48	
PCB-1242	ND		0.024	0.0051	m□/K□		01/25/16 08:31	01/28/16 02:48	
PCB-1248	ND		0.027	0.0039	m□/K□	☼	01/25/16 08:31	01/28/16 02:48	
PCB-1254	ND		0.024	0.0022	m□/K□	≎	01/25/16 08:31	01/28/16 02:48	
PCB-1260	ND		0.024	0.0031	m□/K□	φ.	01/25/16 08:31	01/28/16 02:48	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil F
Tetrachloro-m-xylene	81		45 - 135				01/25/16 08:31	01/28/16 02:48	
DCB Decachlorobiphenyl	69		50 - 140				01/25/16 08:31	01/28/16 02:48	
□ etho□: 6020 - □ etals	Pmsn								
Analyte		□□ali⊡er	RL	□ DL	□nit	D	Prepare□	Analy⊡e□	Dil⊟
Lea□	560		1.2	0.11	m□/K□	\	01/22/16 14:23	01/26/16 20:16	-
General Chemistry									
Analyte	Res□lt	□□ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □
Percent Soli⊡s			0.10	0.10				01/25/16 08:13	
Percent □ oist□re	61		0.10	0.10				01/25/16 08:13	

Client: AECOM, Inc. TestAmerica Job ID: 580-56705-1

Project/Site: Former Crown Cork and Seal -Mecox

Lab Sample ID: 580-56705-2

Client Sample ID: S-2 Date Collecte : 01 20 16 0 : 0 □ atrix: Soli □ Date Receive : 01 21 16 12:05

Percent Soli ☐s: ☐☐0

ate Receive 0121116 12	2.05							Percent Son	J
□ etho□: 8082 - Polychlor		S (PC□s□b	•		•	_	Dramara	A malu ==	D:I ==
Analyte			RL		□nit	_ D	Prepare	Analy e	Dil □a
PCB-1016	ND		0.020		m□/K□		01/25/16 08:31		
PCB-1221	ND		0.022		m□/K□	:	01/25/16 08:31		
PCB-1232	ND		0.022	0.0044	m□/K□	₩	01/25/16 08:31	01/28/16 03:39	
PCB-1242	ND		0.020	0.0042	m□/K□	₩	01/25/16 08:31	01/28/16 03:39	
PCB-1248	ND		0.022	0.0032	$m\square/K\square$	₩	01/25/16 08:31	01/28/16 03:39	
PC -125	0.055		0.020	0.0018	$m\square/K\square$	₩	01/25/16 08:31	01/28/16 03:39	
PCB-1260	ND		0.020	0.0026	m□/K□		01/25/16 08:31	01/28/16 03:39	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Tetrachloro-m-xylene	76		45 - 135				01/25/16 08:31	01/28/16 03:39	
DCB Decachlorobiphenyl	69		50 - 140				01/25/16 08:31	01/28/16 03:39	
□ etho□: 6020 - □ etals	PIII SII								
Analyte	Res□lt	□ □ali ier	RL	□DL	□nit	D	Prepare□	Analy⊡e□	Dil⊟a
Lea	1500		1.0	0.10	m□/K□	-	01/22/16 14:23	01/26/16 20:21	
Conoral Chamiatry									
General Chemistry						_	_		
	Res⊟lt	□□ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil ⊟a
General Chemistry Analyte Percent Soli⊡s	Res□lt	□□aliūer	RL 0.10	0.10		_ D	Prepare	Analy e 01/25/16 08:13	Dil □

1/30/2016

Client: AECOM, Inc.

Project/Site: Former Crown Cork and Seal -Mecox

Client Sample ID: S-□

Percent □ oist □re

Date Collecte : 01 20 16 0 : 5

Date Receive : 01 21 16 12:05

Lab Sample ID: 580-56705-□

□ atrix: Soli □

TestAmerica Job ID: 580-56705-1

Percent Soli ☐s: ☐6 2

01/25/16 08:13

Analyte	Res□lt	□ □ali ier	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND		0.026	0.0013	m□/K□	<u> </u>	01/25/16 08:31	01/28/16 03:56	1
PCB-1221	ND		0.028	0.0087	$m\Box / K\Box$	☼	01/25/16 08:31	01/28/16 03:56	1
PCB-1232	ND		0.028	0.0056	$m\Box / K\Box$	☼	01/25/16 08:31	01/28/16 03:56	1
PCB-1242	ND		0.026	0.0054	m□/K□	☼	01/25/16 08:31	01/28/16 03:56	1
PCB-1248	ND		0.028	0.0041	$m\square/K\square$	☼	01/25/16 08:31	01/28/16 03:56	1
PC□-125□	002		0.026	0.0023	$m\square/K\square$	☼	01/25/16 08:31	01/28/16 03:56	1
PCB-1260	ND		0.026	0.0033	m□/K□		01/25/16 08:31	01/28/16 03:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		45 - 135				01/25/16 08:31	01/28/16 03:56	1
DCB Decachlorobiphenyl	61		50 - 140				01/25/16 08:31	01/28/16 03:56	1
- - □ etho □: 6020 - □ etals □C	PMS								
Analyte	Res⊡lt	□□ali⊡er	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea	2 00		1.2	0.12	m□/K□	₩	01/22/16 14:23	01/26/16 20:25	10
General Chemistry									
	Boo⊟t	⊓⊓ali⊓er	RL	DI	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Analyte	Res⊔it		NL.	IXL	□111 t		Fiehale		Dii _ac

0.10

6□

0.10

Client: AECOM, Inc.

Project/Site: Former Crown Cork and Seal -Mecox

Client Sample ID: S-□ Date Collecte : 01 20 16 10:15 Lab Sample ID: 580-56705-□

	□ atrix: Soli □
Porcon	t Saline: 2612

TestAmerica Job ID: 580-56705-1

Date Receive □: 01 21 16 12).0E						Percent Soli	- 26 F
ale Receive UTZTIO 12							Percent Son	5. 20
□ etho □: 8082 - Polychlori	inate□	y Gas Chroi	natogra	ohy				
Analyte	Res⊟lt □ □ali⊡er	RL	□ DL	□nit	D	Prepare□	Analy⊡e□	Dil □a
PCB-1016	ND	0.035	0.0018	m□/K□	<u> </u>	01/25/16 08:31	01/28/16 04:14	
PCB-1221	ND	0.039	0.012	$m\square/K\square$	₩	01/25/16 08:31	01/28/16 04:14	
PCB-1232	ND	0.039	0.0077	$m\square/K\square$	₩	01/25/16 08:31	01/28/16 04:14	
PCB-1242	ND	0.035	0.0074	m□/K□	₩.	01/25/16 08:31	01/28/16 04:14	
PCB-1248	ND	0.039	0.0056	$m\Box / K\Box$	₩	01/25/16 08:31	01/28/16 04:14	
PC□-125□	0 057	0.035	0.0032	m□/K□	₩	01/25/16 08:31	01/28/16 04:14	
PCB-1260	ND 🗆	0.035	0.0046	m□/K□	Φ.	01/25/16 08:31	01/28/16 04:14	
Surrogate	%Recovery Qualifier	Limits				Prepared	Analyzed	Dil Fa
Tetrachloro-m-xylene	83	45 - 135				01/25/16 08:31	01/28/16 04:14	
DCB Decachlorobiphenyl	65	50 - 140				01/25/16 08:31	01/28/16 04:14	
□ etho □: 6020 - □ etals	P. S.							
Analyte	Res⊟lt □ □ali⊡er	RL	□DL	□nit	D	Prepare□	Analy⊡e□	Dil □a
Lea		1.8	0.18	m□/K□	₩	01/22/16 14:23	01/26/16 20:30	•
General Chemistry								
Analyte	Res⊟lt □ □ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil⊟a
Percent Soli⊡s	26	0.10	0.10				01/25/16 08:13	
Percent □ oist□re	7 🗆	0.10	0.10				01/25/16 08:13	

Client: AECOM, Inc.

Client Sample ID: S-5

Date Collecte □: 01 20 16 10: □0

Date Receive : 01 21 16 12:05

Project/Site: Former Crown Cork and Seal -Mecox

TestAmerica Job ID: 580-56705-1

Lab Sample ID: 580-56705-5

□ atrix: Soli □

Percent Soli ☐s: ☐☐5

□ etho □: 8082 - Polychlor Analyte		□□ali⊡er	RL	□ DL	•	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND		0.018	0.00091	m□/K□	<u> </u>	01/25/16 08:31	01/28/16 04:31	1
PCB-1221	ND		0.020	0.0062	$m\Box / K\Box$	☼	01/25/16 08:31	01/28/16 04:31	1
PCB-1232	ND		0.020	0.0040	$m\Box / K\Box$	₩	01/25/16 08:31	01/28/16 04:31	1
PCB-1242	ND		0.018	0.0038	m□/K□		01/25/16 08:31	01/28/16 04:31	1
PCB-1248	ND		0.020	0.0029	$m\Box / K\Box$	₩	01/25/16 08:31	01/28/16 04:31	1
PC □-125 □	0.077		0.018	0.0016	$m\Box / K\Box$	☼	01/25/16 08:31	01/28/16 04:31	1
PCB-1260	ND		0.018	0.0024	m□/K□		01/25/16 08:31	01/28/16 04:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		45 - 135				01/25/16 08:31	01/28/16 04:31	1
DCB Decachlorobiphenyl	71		50 - 140				01/25/16 08:31	01/28/16 04:31	1
□ etho □: 6020 - □ etals	PIII S II								
Analyte		□□ali⊡er	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea□			0.97	0.093	m□/K□	₩	01/22/16 14:23	01/26/16 20:34	10
General Chemistry									
Analyte	Res⊟lt	□□ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Daysout Calina			0.10	0.10				01/25/16 08:13	1
Percent Soli ☐s			0.10	0.10				0 17 207 10 00.10	

Project/Site: Former Crown Cork and Seal -Mecox

TestAmerica Job ID: 580-56705-1

□ etho □: 8082 - Polychlorinate □ □iphenyls □PC □s □by Gas Chromatography

Lab Sample ID: □ 580-21012 1-A Client Sample ID: □ etho □ □ lan □ atrix: Soli □ Prep Type: Total \(\text{INA} \) Analysis □ atch: 2102 \(\text{U} \) Prep □ atch: 21012 \(\text{U} \)

Analyte	Res⊡lt □ □aliûer	RL	□DL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND ND	0.010	0.00050	m□/K□		01/25/16 08:31	01/28/16 02:30	1
PCB-1221	ND	0.011	0.0034	$m\Box / K\Box$		01/25/16 08:31	01/28/16 02:30	1
PCB-1232	ND	0.011	0.0022	$m\Box / K\Box$		01/25/16 08:31	01/28/16 02:30	1
PCB-1242	ND	0.010	0.0021	m□/K□		01/25/16 08:31	01/28/16 02:30	1
PCB-1248	ND	0.011	0.0016	$m\Box / K\Box$		01/25/16 08:31	01/28/16 02:30	1
PCB-1254	ND	0.010	0.00090	$m\Box / K\Box$		01/25/16 08:31	01/28/16 02:30	1
PCB-1260	ND	0.010	0.0013	m⊡/K□		01/25/16 08:31	01/28/16 02:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		45 - 135	01/25/16 08:31	01/28/16 02:30	1
DCB Decachlorobiphenyl	79		50 - 140	01/25/16 08:31	01/28/16 02:30	1

Lab Sample ID: LCS 580-21012 □ 2-A Client Sample ID: Lab Control Sample

□ atrix: Soli□ Prep Type: Total NA
Analysis □ atch: 2102 □ Prep □ atch: 21012 □

	Spi⊡e	LCS	LCS				□Rec□	
Analyte	A□□e□	Res⊟lt	□□aliūer	□nit	D	□Rec	Limits	
PCB-1016	 0.100	0.0798		m□/K□	_	80	40 - 140	
PCB-1260	0.100	0.0622		m□/K□		62	60 - 130	

Lab Sample ID: LCSD 580-21012 □ A Client Sample ID: Lab Control Sample D □ p atrix: Soli □ Prep Type: Total NA

Analysis □atch: 2102 □□

		Spi⊡e	LCSD	LCSD				□Rec□		RPD	
Analyte		A□□e□	Res⊟t	□□ali⊡er	□nit	D	□Rec	Limits	RPD	Limit	
PCB-1016		0.100	0.115		m□/K□		115	40 - 140	36	20	
PCB-1260		0.100	0.103		$m\Box/K\Box$		103	60 - 130	50	20	

	L□SD	L□SD	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	108		45 - 135
DCB Decachlorobiphenyl	100		50 - 140

Lab Sample ID: 580-56705-1 □S

□ atrix: Soli□

Analysis □ atch: 2102□□

Client Sample ID: S-1

Prep Type: Total®NA

Prep □ atch: 21012□

7, 6.6	Sample	Sample	Spi⊡e	□S □S	8				□Rec□	
Analyte	Res⊟t	□□ali⊡er	A□□e□	Res⊟lt □□	ali ier	□nit	D	Rec	Limits	
PCB-1016	ND		0.242	0.262	1	m□/K□	₩	108	40 - 140	
PCB-1260	ND		0.242	0.165		m□/K□	₩	68	60 - 130	

	⊔ S	⊔ ა	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	80		45 - 135
DCB Decachlorobiphenyl	70		50 - 140

TestAmerica Seattle

Prep □atch: 21012□

Project/Site: Former Crown Cork and Seal -Mecox

Lab Sample ID: 580-56705 □ atrix: Soli□ Analysis □atch: 2102□□		Sample	Spi⊡e	□SD	□SD				Client Sar Prep Typ Prep □a	e: Tot	al NA
Analyte		□□ali⊡er	A□□e□		□□alitier	□nit	D	□Rec	Limits	RPD	Limit
PCB-1016			0.222	0.234		m□/K□	_ <u>∓</u>	105	40 - 140	11	20
PCB-1260	ND		0.222	0.154		m⊡/K□	☼	69	60 - 130	7	20
0		□ SD									
Surrogate	%Recovery	Qualifier	45 - 135	_							
Tetrachloro-m-xylene DCB Decachlorobiphenyl	82 72		45 - 135 50 - 140								
DCB Decacniorobiphenyi	12		50 - 140								
□ etho □: 6020 - □ etals											
Lab Sample ID:	00 0 12-A						Clie	ent San	nple ID: 🗆		
□ atrix: Soli □									Prep Typ		
Analysis □atch: 2102 □2									Prep □a	itch: 2	100 🗆 0
Amalista	De	□□□□□ es□lt □□aliûer		RL	□DL □nit				Amalus		Dil □oo
Analyte Lead	KE	ND Lander			0.024 m /K	<u>D</u>		repare	Analy 01/26/16		Dil □ac 5
Leau		ND		0.25	J.U24 IIIDN	. L.	01/2	.2/10 14.2	23 01/20/10	19.10	3
Lab Sample ID: LCS 580-2 □ atrix: Soli□ Analysis □atch: 2102□2	100 □0					Clien	t Saı	mple IC	o: Lab Con Prep Typ Prep □a	e: Tot	al NA
, ,			Spi⊡e	LCS	LCS				□Rec□		
Analyte			A□□e□	Res⊟lt	□□aliūer	□nit	D	□Rec	Limits		
Lead			50.0	48.2		m□/K□		96	80 - 120		
Lab Sample ID: LCSD 580 □ atrix: Soli□ Analysis □atch: 2102□2	-2100 🖸 🗅 🕞	A				Client Sar	nple	ID: Lal	o Control S Prep Typ Prep □a	e: Tot	al®A 100 ⊑0
			Spi⊡e -	_	LCSD		_	_	□Rec□		RPD
Analyte			A = e		□□ali⊡er	□nit	_ D	Rec	Limits	RPD	Limit
Lead			50.0	47.4		m⊡/K□		95	80 - 120	2	20
□ etho □: D 2216 - Perce	ent 🗆 oist	re									
Lab Sample ID: 580-56705 □ atrix: Soli□	-5 D□								Client Sar Prep Typ		
Analysis □atch: 21012□	O	Commi-		.	D _						BBB
Analyta		Sample			D _□	□nit	ь.			RPD	RPD Limit
Analyte Percent Solids	Result	□ □aliūer ————————————————————————————————————		Kes Lit	□□ali⊡er	□nit □	_ D				Limit
										4	20
Percent Moist⊡re	51			49						4	20

Project/Site: Former Crown Cork and Seal -Mecox

Client Sample ID: S-1 Lab Sample ID: 580-56705-1

Date Collecte : 01 20 16 0 : 15 Date Receive : 01 21 16 12:05

□ atrix: Soli □

□ atrix: Soli □

□ atrix: Soli □

Dil⊡tion □atch **Prepare** □ □atch □atch □etho□ N□mber or Analy □e□ Analyst **Prep Type** Type R□n □actor Lab 210123 01/25/16 08:13 CJZ TAL SEA Total/NA Analysis D 2216

Lab Sample ID: 580-56705-1 Client Sample ID: S-1

Date Collecte : 01 20 16 0 : 15 □ atrix: Soli □

Date Receive : 01 21 16 12:05 Percent Soli s: 00

Γ	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Prep	3550B			210124	01/25/16 08:31	J1J	TAL SEA
Total/NA	Analysis	8082		1	210293	01/28/16 02:48	DCV	TAL SEA
Total/NA	Prep	3050B			210090	01/22/16 14:23	MKN	TAL SEA
Total/NA	Analysis	6020		10	210292	01/26/16 20:16	FCW	TAL SEA

Client Sample ID: S-2 Lab Sample ID: 580-56705-2

Date Collecte : 01 20 16 0 : 0

Date Receive : 01 21 16 12:05

_	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Analysis	D 2216		1	210123	01/25/16 08:13	CJZ	TAL SEA

Lab Sample ID: 580-56705-2 Client Sample ID: S-2

Date Collecte : 01 20 16 0 : 0

Date Receive : 01 21 16 12:05 Percent Soli s: 00

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R⊡n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Prep	3550B			210124	01/25/16 08:31	J1J	TAL SEA
Total/NA	Analysis	8082		1	210293	01/28/16 03:39	DCV	TAL SEA
Total/NA	Prep	3050B			210090	01/22/16 14:23	MKN	TAL SEA
Total/NA	Analysis	6020		10	210292	01/26/16 20:21	FCW	TAL SEA

Client Sample ID: S-□ **Lab Sample ID: 580-56705-**□

Date Collecte : 01 20 16 0 : 5 □ atrix: Soli □

Date Receive : 01 21 16 12:05

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Analysis	D 2216			210123	01/25/16 08:13	CJZ	TAL SEA

Client Sample ID: S-□ Lab Sample ID: 580-56705-□

Date Collecte : 01 20 16 0 : 5

Date Receive : 01 21 16 12:05 Percent Soli ☐s: ☐6 2

□atch Dil⊡tion □atch **Prepare** □ □atch □etho□ **Prep Type** Туре R□n N□mber or Analy e □ Analyst □actor Lab Total/NA 3550B TAL SEA Prep 210124 01/25/16 08:31 J1J

TestAmerica Seattle

□ atrix: Soli □

Project/Site: Former Crown Cork and Seal -Mecox

Client Sample ID: S-□ Lab Sample ID: 580-56705-□

Date Collecte : 01 20 16 0 : 5 Date Receive : 01 21 16 12:05

□ atrix: Soli □

Percent Soli ☐s: ☐6 2

□atch Dil⊡tion □atch □atch **Prepare** □ □actor N⊡mber **Prep Type** Type □etho□ R⊡n or Analy⊡e □ Analyst Lab Total/NA Analysis 8082 210293 01/28/16 03:56 DCV TAL SEA Total/NA Prep 3050B 210090 01/22/16 14:23 MKN TAL SEA Total/NA Analysis 6020 10 210292 01/26/16 20:25 FCW TAL SEA

Client Sample ID: S-□ **Lab Sample ID: 580-56705-**

Date Collecte : 01 20 16 10:15 □ atrix: Soli □

Date Receive : 01 21 16 12:05

□atch □atch Dil□tion □atch **Prepare** Analyst Type □etho□ R□n □actor N⊟mber or Analy⊡e□ **Prep Type** Lab Analysis D 2216 210123 01/25/16 08:13 CJZ TAL SEA Total/NA

Client Sample ID: S-□ Lab Sample ID: 580-56705-□

Date Collecte : 01 20 16 10:15 □ atrix: Soli □ Date Receive : 01 21 16 12:05 Percent Soli ☐s: 26 12

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Prep	3550B			210124	01/25/16 08:31	J1J	TAL SEA
Total/NA	Analysis	8082		1	210293	01/28/16 04:14	DCV	TAL SEA
Total/NA	Prep	3050B			210090	01/22/16 14:23	MKN	TAL SEA
Total/NA	Analysis	6020		10	210292	01/26/16 20:30	FCW	TAL SEA

Client Sample ID: S-5 Lab Sample ID: 580-56705-5

Date Collecte : 01 20 16 10: 0

Date Receive : 01 21 16 12:05

_	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Analysis	D 2216		1	210123	01/25/16 08:13	CJZ	TAL SEA

Lab Sample ID: 580-56705-5 Client Sample ID: S-5

Date Collecte : 01 20 16 10: 0

□ atrix: Soli□ Date Receive : 01 21 16 12:05 Percent Soli s: 005

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Prep	3550B			210124	01/25/16 08:31	J1J	TAL SEA
Total/NA	Analysis	8082		1	210293	01/28/16 04:31	DCV	TAL SEA
Total/NA	Prep	3050B			210090	01/22/16 14:23	MKN	TAL SEA
Total/NA	Analysis	6020		10	210292	01/26/16 20:34	FCW	TAL SEA

Laboratory Recerences:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TestAmerica Seattle

□ atrix: Soli □

Certi⊡cation S□mmary

Client: AECOM, Inc. TestAmerica Job ID: 580-56705-1

Project/Site: Former Crown Cork and Seal -Mecox

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

A⊟thority	Program	EPA Region	Certi⊡cation ID	Expiration Date
Alaska (□ST)	State Pro ram	10	□ST-022	03-02-16
Cali ornia	State Pro□ram	9	2901	01-31-16
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (□ST)	State Pro□ram	8	N/A	04-30-20
Ore⊡on	NELAP	10	WA100007	11-06-16
□S Fish □ Wildli e	Federal		LE058448-0	02-28-16
□SDA	Federal		P330-14-00126	04-08-17
Washin⊡ton	State Pro⊡ram	10	C553	02-17-16

Sample S□mmary

Client: AECOM, Inc.

Project/Site: Former Crown Cork and Seal -Mecox

TestAmerica Job ID: 580-56705-1

Lab Sample ID	Client Sample ID	□atrix	Collecte□	Receive□
580-56705-1	S-1	Solid	01/20/16 09:15	01/21/16 12:05
580-56705-2	S-2	Solid	01/20/16 09:30	01/21/16 12:05
580-56705-3	S-3	Solid	01/20/16 09:45	01/21/16 12:05
580-56705-4	S-4	Solid	01/20/16 10:15	01/21/16 12:05
580-56705-5	S-5	Solid	01/20/16 10:30	01/21/16 12:05

TestAmerica Seattle

5755 8th Street East



Chain of Custody Record

<u>TestAmerica</u>

Tacoma, WA 98424-1317 580-56705 Chain of Custody phone 253.922.2310 fax 253.922		ro	gram:] bw [NPD	ES [] R	CRA [☑ Oth	ner:										TestA	merica	Labo	ratorie	s, Inc.
Client Contact	Project Ma	100 to 0		8		Site	Cont	act:					Date	1/21	/16	57		* **		COC N	ວ:	#(#) (i		
AECOM	Tel/Fax: 503-478-1623												Carrier:								_ of	C	OCs	
111 SW Columbia	P	Analysis Tu	ırnaround	Time		П				T	Ť	Π	Т				Т		\Box	Sampler	:			
Portland, OR 97201	-	NDAR DAYS		ORKING D	AYS		1							1	-					For Lab	Use On	ly:		
503-222-7200 Phone	TAT	if different fro	om Below			Î	8	€												Walk-in	Client:			
(xxx) xxx-xxxx FAX	V		2 weeks			z >	20	8082A)		ı										Lab San	apling:			
Project Name: Mecox			1 week			5)9 P	9 90														,		
Site: Former Crown Cork and Seal Facility			2 days			le (율	Method								8				Job/SE	G No.:			
P O #			1 day			g/s	Me	N		1														
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N) Perform MS/MSD (Y/N)	Lead (EPA Method 6020A)	PCBs (EPA												{	Sample S	Specific	: Notes:	
		1315				Ħ	T				\top	Г					\forall		\forall			<u> </u>		
S-1	1/20/2016	-	G	Sed	1	Ш	X	Х	44				\perp	\perp			\perp	-						
S-2	1/20/2016	930	G	Sed	1	Ш	х	х							_					e				
S-3	1/20/2016	945	G	Sed	_ 1		Х	х		\perp	\perp					Ц.		_	\perp	<u> </u>				
S-4	1/20/2016	1015	G	Sed	1	Ш	х	х																
S-5	1/20/2016	1030	G	Sed	1		х	x						1										
	172072010	1 - 70		000	•		Î										\top		T					
										1	+			1			\dagger		Н					
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					-			+	++	+	+			+			-	-	+	 				
					50VII-01					-				+			+		-	-				
	والمعادر والمواجد أوا			when I are us	2 . 15 . 15			State Michael	. N. C. 1. In.	. 15	~22 I			4				1.51	1	allerence in	1	11.5	S of real	O. J. P. C. 1989
Preservation Used: 1= Ice, 2= HCl; 3= H2S04; 4=HN03; 5=Nossible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please Li Comments Section if the lab is to dispose of the sample. Non-Hazard Flammable Skin Irritant		Waste Cod	es for the s		the	Sa			posal on to Clie				asse					e reta		i longer i	than 1 m	nonth)		
Special Instructions/QC Requirements & Comments:	1 1 0130	II D	I OIII	MIOWII				Ketuii	i to che	arc .			DISDOS	at DV L	<u>a0</u>	- 1		AIGIIV	E 101_		Pionuis			
Custody Seals Intact: Yes No	Custody Se	al No.:						C	ooler 7	Temp	(°C)	: Obs	s'd:		(Corr'd:	:			Therm ID				
Relinquished by:	Company:	AFELON	5	Date/Tir	ne:	R/	eceiv	ed by	111	N	51	_		Co	mpa	E.				Date/Tin	1916	11	40	
Relinquished by:	Company:		8	Date/Tip	ne:///	25 A	ceiv	ed by	and	1	ull	1			mp					Date/Tin	PL.		.05	
Relinquished by:	Company:			Date/fir	ne:	R	ecei	ed in	Labora	atory	b(y:))		Co	mpa	ny:				Date/Tin		10	-03	

Form No. CA-C-WI-002, Rev. 4.8, dated 11/04/2015













Login Sample Receipt Chec ☐ist

Client: AECOM, Inc. Job N□mber: 580-56705-1

Login N□mber: 56705 List So□rce: TestAmerica Seattle

List N□mber: 1

Creator: Gon ales Steve

Creator. Gon Lates Steve		
□□estion	Ans□er	Comment
$\label{eq:condition} $$ \Box$ adioacti$$ into the cked or is $$ \Box'= back$$ ro$$ as meas$$ red by a s$$ rey meter.$	Tr⊡e	
The cooler's c⊡stody seal, i□present, is intact.	Tr⊡e	
Sample c⊡stody seals, i⊡present, are intact.	Tr⊡e	
The cooler or samples do not appear to ha e been compromised or tampered with.	Tr⊡e	
Samples were recei⊡ed on ice.	Tr⊡e	
Cooler Temperat⊡re is acceptable.	Tr⊡e	
Cooler Temperat⊡re is recorded.	Tr⊡e	
COC is present.	Tr⊡e	
COC is tilled o⊑t in ink and le⊑ible.	Tr⊡e	
COC is iilled o t with all pertinent in ormation.	Tr⊡e	
Is the Field Sampler s name present on COC□	Tr⊡e	
There are no discrepancies between the containers recei ed and the COC.	Tr⊡e	
Samples are recei ed within □oldin □ Time (excl din □ tests with immediate □Ts)	Tr⊡e	
Sample containers ha⊡e le⊡ble labels.	Tr⊡e	
Containers are not broken or leakin □	Tr⊡e	
Sample collection date/times are pro ided.	Tr⊡e	
Appropriate sample containers are □sed.	Tr⊡e	
Sample bottles are completely illed.	Tr⊡e	
Sample Preser⊑ation Verified.	N/A	
There is s □ icient □ol. or all re □ ested analyses, incl. any re □ ested MS/MSDs	Tr□e	
Containers re □ irin □ □ ero headspace ha □ e no headspace or b □ bble is □ 6mm (1/4 □).	Tr⊡e	
M⊟tiphasic samples are not present.	Tr⊡e	
Samples do not re ⊡ire splittin or compositin □	Tr⊡e	
□esid □al Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-56721-1

Client Project/Site: Former Crown, Cork and Seal- Mecox

For:

AECOM, Inc. 111 SW Columbia Street, Suite 1500 Portland, Oregon 97201

Attn: Steve Roberts

Authorized for release by: 2/18/2016 8:50:18 AM

Sarah Murphy, Project Manager I

(253)922-2310

sarah.murphy@testamericainc.com

-----LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM, Inc.

Project/Site: Former Crown, Cork and Seal- Mecox

TestAmerica Job ID: 580-56721-1

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Case Narrative

Client: AECOM, Inc.

Project/Site: Former Crown, Cork and Seal- Mecox

TestAmerica Job ID: 580-56721-1

Job ID: 580-56721-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were recei do n 1/22/2016 8:30 AM the samples arrided in dood condition, properly preserd and, where reddired, on ice. The temperat re odthe cooler at receipt was 3.9 dc.

Receipt Exceptions

The Field Sampler was not listed on the Chain o □C □stody.

The ollowin samples were canceled by the client on 01-28-16. PB3-01 (580-56721-3) and PB4-01 (580-56721-4).

GC Semi VOA

Method(s) 8082, 8082A: The ollowin sample(s) contained more than one Aroclor with ins dicient separation to dati ind dally. The PCBs present are dati idea as the predominant Aroclor: PB1-01 (580-56721-1), PB5-01 (580-56721-5) and PB6-01 (580-56721-6).

Method(s) 8082, 8082A: The instr□ment stopped be ore the closin□ CCV was able to be r□n. The se □ence was restarted in the mornin□ and the closin□ CCV was r□n within 12 ho□rs o□the last sample in the bracket b□t not within 12 ho□rs o□the tirst sample in the bracket. (CCV 580-211279/101), (CCV 580-211279/102), (CCV 580-211279/103), (CCV 580-211279/104) and (CCV 580-211279/105)

Method(s) 8082: Sarrolate recolary for Tetrachloro-m-xylene for the following sample was oftside control limits: PB2-01 (580-56721-2). Eddence of matrix interference is presentative force, re-extraction and/or re-analysis was not performed.

No additional analytical or lality isses were noted, other than those described abole or in the Delinitions/lossary pale.

General Chemistry

No analytical or □ality iss es were noted, other than those described in the Definitions/□lossary pa e.

Organic Prep

Method(s) 3550B: There is ins dicient amodnt odthe sample to dise 10 drams for the extraction. PB1-01 (580-56721-1) and PB5-01 (580-56721-5)

Method(s) 3550B: Ins □ticient sample □ol □me was a □ailable to per orm a matrix spike/matrix spike d □plicate (MS/MSD) associated with analytical batch 580-210289.

No additional analytical or □ality iss es were noted, other than those described abo e or in the Definitions/□lossary pa e.

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Delinitions Glossary

Client: AECOM, Inc.

 $\mathsf{TE}\square$

Project/Site: Former Crown, Cork and Seal- Mecox

Toxicity E□□□alent □ □otient (Dioxin)

TestAmerica Job ID: 580-56721-1

□□aliūei	ers	
GC Semi \	i VOA	
□□ali⊡er	□ □ali⊡er Description	
	S⊡rro⊡ate is o⊡tside control limits	

Glossary	
Abbreviation	These commonly □se □ abbreviations may or may not be present in this report □
	Listed □nder the □D□col□mn to desi□nate that the res□t is reported on a dry wei□ht basis
	Percent □eco□ery
CFL	Contains Free Li⊡id
CNF	Contains no Free Li⊡íd
DE□	D⊏plicate error ratio (normali⊏ed absol⊏te di⊞erence)
Dil Fac	Dil⊡tion Factor
DL, □A, □E, IN	Indicates a Dil⊡tion, □e-analysis, □e-extraction, or additional Initial metals/anion analysis o□the sample
DLC	Decision le el concentration
MDA	Minim□m detectable acti ity
EDL	Estimated Detection Limit
MDC	Minim□m detectable concentration
MDL	Method Detection Limit
ML	Minim□m Le el (Dioxin)
NC	Not Calc⊡ated
ND	Not detected at the reportin limit (or MDL or EDL i shown)
P□L	Practical □ □antitation Limit
□C	□ □ality Control
□E□	□elati □e error ratio
□L	□eportin□ Limit or □e □ested Limit (□adiochemistry)
□PD	□elati⊡e Percent Di⊞erence, a meas⊡re o⊡the relati⊡e di⊞erence between two points
TEF	Toxicity E⊡i□alent Factor (Dioxin)

TestAmerica Seattle

Client Sample Res□**Its**

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Percent □ oist □re

Client Sample ID: P□1-01 Lab Sample ID: 580-56721-1

 Date Collecte □: 01 □ 20 □ 6 0 □: 00
 □ atrix: Soli □

 Date Receive □: 01 □ 22 □ 6 08: □ 0
 Percent Soli □ s: □ 1 □ 0

Analyte	Res⊟t □□	ali⊡er RL		□nit	D	Prepare □	Analy⊡e□	Dil □ac
PCB-1016	ND	0.021	0.0010	m□/K□	<u> </u>	01/27/16 08:35	02/16/16 20:23	1
PCB-1221	ND	0.023	0.0071	$m\square/K\square$	☼	01/27/16 08:35	02/16/16 20:23	1
PC□-12□2	0.0	0.023	0.0046	$m\square/K\square$	☼	01/27/16 08:35	02/16/16 20:23	1
PCB-1242	ND	0.021	0.0044	m⊡/K□	₩	01/27/16 08:35	02/16/16 20:23	1
PCB-1248	ND	0.023	0.0033	$m\square/K\square$	☼	01/27/16 08:35	02/16/16 20:23	1
PCB-1254	ND	0.021	0.0019	$m\square/K\square$	☼	01/27/16 08:35	02/16/16 20:23	1
PCB-1260	ND	0.021	0.0027	m□/K□	☼	01/27/16 08:35	02/16/16 20:23	1
Surrogate	%Recovery Qua	alifier Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	102	45 - 135				01/27/16 08:35	02/16/16 20:23	1
DCB Decachlorobiphenyl	110	50 - 140				01/27/16 08:35	02/16/16 20:23	1
General Chemistry								
Analyte	Res⊟t □ □	ali îer RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli ☐s		0.10	0.10	П			01/28/16 16:39	1

0.10

0.10

2/18/2016

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01/28/16 16:39

Client Sample Res□**Its**

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Percent □ oist □re

Client Sample ID: P□2-01 Lab Sample ID: 580-56721-2

Date Collecte□: 01 20 16 0 □: □0 □ atrix: Soli□

Date Receive ☐: 01 22 16 08: ☐0	Percent Soli ☐s: ☐☐5
D. 1. D	D 1 O. 1

□ etho □: 8082 - Polychlor Analyte		□□ali⊓er	RL		□nit	D	Prepare □	Analy⊑e□	Dil □ac
PCB-1016	ND		0.0097	0.00049		— -	01/27/16 08:35		1
PCB-1221	ND		0.011	0.0033	m□/K□	₩	01/27/16 08:35	02/16/16 20:41	1
PCB-1232	ND		0.011	0.0021	m⊡/K□	₩	01/27/16 08:35	02/16/16 20:41	1
PCB-1242	ND		0.0097	0.0020	m⊡/K□		01/27/16 08:35	02/16/16 20:41	1
PCB-1248	ND		0.011	0.0016	m□/K□	₩	01/27/16 08:35	02/16/16 20:41	1
PCB-1254	ND		0.0097	0.00088	m□/K□	₩	01/27/16 08:35	02/16/16 20:41	1
PCB-1260	ND		0.0097	0.0013	m□/K□		01/27/16 08:35	02/16/16 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	444		45 - 135				01/27/16 08:35	02/16/16 20:41	1
DCB Decachlorobiphenyl	122		50 - 140				01/27/16 08:35	02/16/16 20:41	1
General Chemistry									
Analyte	Res⊡lt	□□ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli ☐s	100	· -	0.10	0.10				01/28/16 16:39	1

0.10

0 ...7

0.10

2/18/2016

9

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01/28/16 16:39

Client Sample Res ☐Its

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Client Sample ID: P□5-01

Date Collecte : 01 20 16 10:15

Date Receive : 01 22 16 08: 0

Lab Sample ID: 580-56721-5

□ atrix: Soli

Percent Soli ☐s: ☐6 Ⅲ

Analyte	Res⊡lt □ □ali⊡er	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND ND	0.016	0.00081	m□/K□	<u> </u>	01/27/16 08:35	02/16/16 21:00	1
PCB-1221	ND	0.018	0.0055	$m\Box / K\Box$	☼	01/27/16 08:35	02/16/16 21:00	1
PCB-1232	ND	0.018	0.0036	$m\Box / K\Box$	☼	01/27/16 08:35	02/16/16 21:00	1
PCB-1242	ND	0.016	0.0034	m⊡/K□	φ.	01/27/16 08:35	02/16/16 21:00	1
PC□-12□8	0₫5	0.018	0.0026	$m\Box / K\Box$	☼	01/27/16 08:35	02/16/16 21:00	1
PCB-1254	ND	0.016	0.0015	$m\Box / K\Box$	☼	01/27/16 08:35	02/16/16 21:00	1
PCB-1260	ND	0.016	0.0021	m□/K□	ф	01/27/16 08:35	02/16/16 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		45 - 135	01/27/16 08:35	02/16/16 21:00	1
DCB Decachlorobiphenyl	103		50 - 140	01/27/16 08:35	02/16/16 21:00	1

General Chemistry	Baself coelletar	D.	DI	_	D	Aughor	D'I
Analyte	Res□lt □ □ali ier	RL	RL □nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli □s	<u></u>	0.10	0.10			01/28/16 16:39	1
Percent □ oist□re	□ 7	0.10	0.10			01/28/16 16:39	1

5

0

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10

Client Sample Res ☐Its

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Client Sample ID: P□6-01

Date Collecte : 01 20 16 10: 0

Date Receive □: 01 22 16 08: □0

Analyte

Percent Soli ☐s

Percent □ oist □re

Lab Sample ID: 580-56721-6

□ atrix: Soli □

Percent Soli ☐s: □□□□

Analy⊡e□

01/28/16 16:39

01/28/16 16:39

Prepare

Analyte	Res⊟lt	□ □ali ier	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND		0.011	0.00053	m□/K□	₩	01/27/16 08:35	02/16/16 21:18	1
PCB-1221	ND		0.012	0.0036	m□/K□	☼	01/27/16 08:35	02/16/16 21:18	1
PCB-1232	ND		0.012	0.0023	$m\Box / K\Box$	☼	01/27/16 08:35	02/16/16 21:18	1
PCB-1242	ND		0.011	0.0022	m⊡/K□	₽	01/27/16 08:35	02/16/16 21:18	1
PC□-12□8	0121		0.012	0.0017	$m\Box / K\Box$	₩	01/27/16 08:35	02/16/16 21:18	1
PCB-1254	ND		0.011	0.00096	$m\Box / K\Box$	₩	01/27/16 08:35	02/16/16 21:18	1
PCB-1260	ND		0.011	0.0014	m⊡/K□	☼	01/27/16 08:35	02/16/16 21:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		45 - 135				01/27/16 08:35	02/16/16 21:18	1
DCB Decachlorobiphenyl	91		50 - 140				01/27/16 08:35	02/16/16 21:18	1

RL

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2/18/2016

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Dil □ac

Client: AECOM, Inc.

Project/Site: Former Crown, Cork and Seal- Mecox

TestAmerica Job ID: 580-56721-1

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample D□p

Prep Type: Total NA

Prep Type: Total NA

□ etho □: 8082 - Polychlorinate □ □iphenyls □PC □s □by Gas Chromatography

Lab Sample ID: □ □ 580-21028 □ 1-A Client Sample ID: □etho□□lan□ □ atrix: Soli □ Prep Type: Total NA **Prep** □atch: 21028□

Analysis □atch: 21127□

Analyte	Res⊡lt □ □aliûer	RL	□DL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
PCB-1016	ND ND	0.010	0.00050	m□/K□		01/27/16 08:35	02/16/16 16:42	1
PCB-1221	ND	0.011	0.0034	$m\Box / K\Box$		01/27/16 08:35	02/16/16 16:42	1
PCB-1232	ND	0.011	0.0022	$m\Box / K\Box$		01/27/16 08:35	02/16/16 16:42	1
PCB-1242	ND	0.010	0.0021	m□/K□		01/27/16 08:35	02/16/16 16:42	1
PCB-1248	ND	0.011	0.0016	$m\Box / K\Box$		01/27/16 08:35	02/16/16 16:42	1
PCB-1254	ND	0.010	0.00090	$m\Box / K\Box$		01/27/16 08:35	02/16/16 16:42	1
PCB-1260	ND	0.010	0.0013	m⊡/K□		01/27/16 08:35	02/16/16 16:42	1

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Tetrachloro-m-xylene 99 45 - 135 01/27/16 08:35 02/16/16 16:42 DCB Decachlorobiphenyl 50 - 140 01/27/16 08:35 02/16/16 16:42 117

Lab Sample ID: LCS 580-21028 □ 2-A

□ atrix: Soli□

Analysis □atch: 21127□						Prep □atch: 21028 □
	Spi⊡e	LCS LCS				□Rec□
Analyte	A□□e□	Res□lt □ □ali⊡er	□nit	D [Rec	Limits
PCB-1016	0.100	0.106	m□/K□		106	40 - 140
PCB-1260	0.100	0.0982	m□/K□		98	60 - 130

LOS LOS

Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	99		45 - 135
DCB Decachlorobiphenyl	113		50 - 140

Lab Sample ID: LCSD 580-21028 □ □ -A

□ atrix: Soli □

Analysis Laten: 21121 L						Prep ⊔a	tcn: 21	U28
_	Spi⊡	e LCSD	LCSD			□Rec□		RPD
Analyte	A - e	Res⊟t	□□ali⊡er	□nit D	□Rec	Limits	RPD	Limit
PCB-1016	0.10	0.106		m□/K□	106	40 - 140	0	20
PCB-1260	0.10	0.103		$m\Box / K\Box$	103	60 - 130	5	20

L SD L SD Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 100 45 - 135 DCB Decachlorobiphenyl 112 50 - 140

etho □: D 2216 - Percent □ oist □re

Lab Sample ID: 580-56721-6 D□ Client Sample ID: P□6-01 □ atrix: Soli □ Prep Type: Total NA

Analysis Latch: 210_5									
_	Sample	Sample	D□	D□					RPD
Analyte	Res⊟lt	□□aliūer	Res⊡t	□□aliūer	□nit	D		RPD	Limit
Percent Solids	93		93					0.8	20
Percent Moist□re	6.7		7.4					10	20

TestAmerica Seattle

2

Client: AECOM, Inc.

Project/Site: Former Crown, Cork and Seal- Mecox

Lab Sample ID: 580-56721-1

⊓atrix: Soli⊓

□ atrix: Soli □

□ atrix: Soli □

□ atrix: Soli□

□atrix: Soli□

Percent Soli s: 5

Client Sample ID: P 1-01
Date Collecte : 01 20 16 0 : 00
Date Receive : 01 22 16 08: 0

Client Sample ID: P□1-01

 □atch
 □atch
 Dil□tion
 □atch
 Prepare□

 Prep Type
 Type
 □etho□
 R□n
 □actor
 N□mber or Analy□e□

Total/NA Analysis D 2216 1 210454 01/28/16 16:39 J1J TAL SEA

Lab Sample ID: 580-56721-1

Analyst

Lab

 Date Collecte □: 01 20 16 0 □:00
 □ atrix: Soli □

 Date Receive □: 01 22 16 08: □
 Percent Soli □s: □1 0

□atch □atch Dil⊡tion □atch **Prepare** □ **Prep Type** Type □etho□ R□n □actor N□mber or Analy **e** □ Analyst Lab Total/NA 3550B 210289 01/27/16 08:35 CJZ TAL SEA Prep Total/NA Analysis 8082 211279 02/16/16 20:23 DCV TAL SEA 1

Client Sample ID: P□2-01 Lab Sample ID: 580-56721-2

Date Collecte : 01 20 16 0 : 0

Date Receive □: 01 22 16 08: □0

□atch □atch Dil⊡tion □atch **Prepare** □ □etho□ R□n □actor N⊓mber or Analy e □ Analyst Prep Type Type Lab 210454 01/28/16 16:39 J1J D 2216 TAL SEA Total/NA Analysis

Client Sample ID: P□2-01 Lab Sample ID: 580-56721-2

Date Collecte □: 01 20 16 0 □: □ 0
Date Receive □: 01 22 16 08: □ 0

Dil⊤tion ⊓atch □atch □atch **Prepare** □ or Analy⊡e□ **Prep Type** Type □etho□ R□n □actor N□mber Analyst Lab Total/NA Prep 3550B 210289 01/27/16 08:35 CJZ TAL SEA TAL SEA Total/NA Analysis 8082 211279 02/16/16 20:41 DCV 1

Client Sample ID: P□5-01 Lab Sample ID: 580-56721-5

Date Collecte : 01 20 16 10:15

Date Receive : 01 22 16 08: 0

Dil⊟tion □atch □atch □atch **Prepare** □ **Prep Type** Type □etho□ R□n □actor N□mber or Analy **e** □ Analyst Lab 210454 Total/NA Analysis D 2216 01/28/16 16:39 J1J TAL SEA

Client Sample ID: P□5-01 Lab Sample ID: 580-56721-5

Date Collecte : 01 20 16 10:15

Date Receive □: 01 22 16 08: □0 Percent Soli □s: □6 □□

□atch □atch Dil⊡tion □atch **Prepare** □ □etho□ **Prep Type** Type □actor N□mber or Analy e □ R⊡n Analyst Lab 3550B 210289 01/27/16 08:35 TAL SEA Total/NA Prep CJZ Total/NA Analysis 8082 1 211279 02/16/16 21:00 TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Client Sample ID: P□6-01 Lab Sample ID: 580-56721-6

Date Collecte □: 01 20 16 10: □0 □ atrix: Soli □

Date Receive □: 01 22 16 08: □0

Dil⊡tion □atch □atch □atch **Prepare** □etho□ **Prep Type** Type R⊡n □actor N□mber or Analy⊡e□ Analyst Total/NA Analysis D 2216 210454 01/28/16 16:39 J1J TAL SEA

Client Sample ID: P□6-01 Lab Sample ID: 580-56721-6

Date Collecte □: 01 \(\text{\tint{\text{\tint{\text{\tinit}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\texi}}}\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\tint{\text{\text{\text{\text{\text{\texitile}}\text{\text{\texint{\text{\text{\text{\text{\texi}\text{\text{\texit{\text{\text{\

Date Receive □: 01 22 16 08: □ Percent Soli □s: □ □ □

□atch □atch Dil⊡tion □atch **Prepare** □ □etho□ **Prep Type** Type R□n □actor N□mber or Analy ⊡e □ Analyst Lab Total/NA 3550B 210289 01/27/16 08:35 CJZ TAL SEA Prep Total/NA Analysis 8082 1 211279 02/16/16 21:18 DCV TAL SEA

Laboratory Re erences:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Certi⊡cation S□mmary

Client: AECOM, Inc.

TestAmerica Job ID: 580-56721-1

Project/Site: Former Crown, Cork and Seal- Mecox

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

A⊟thority	Program	EPA Region	Certi ication ID	Expiration Date
Alaska (□ST)	State Pro□ram	10	□ST-022	03-02-16
Caliornia	State Pro ram	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (□ST)	State Pro ram	8	N/A	04-30-20
Ore⊡on	NELAP	10	WA100007	11-06-16
□S Fish □ Wildli e	Federal		LE058448-0	02-28-16
□SDA	Federal		P330-14-00126	04-08-17
Washin⊑ton	State Pro⊡ram	10	C553	02-17-16

Sample S□mmary

Client: AECOM, Inc.

Project/Site: Former Crown, Cork and Seal- Mecox

TestAmerica Job ID: 580-56721-1

Lab Sample ID	Client Sample ID	□atrix	Collecte □ Re	ceive□
580-56721-1	PB1-01	Solid	01/20/16 09:00 01/22	/16 08:30
580-56721-2	PB2-01	Solid	01/20/16 09:30 01/22	/16 08:30
580-56721-5	PB5-01	Solid	01/20/16 10:15 01/22	/16 08:30
580-56721-6	PB6-01	Solid	01/20/16 10:30 01/22	/16 08:30

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3405 SI Niches Svense

Chain of Custody R

EADER IN ENVIRONMENTAL TESTING

Beaverton, IR 97808

Phone: 503.906.9200 Fax:	Daniel	-4 D		7 .	-7	_	_			580	-56721	Chain	of Cu	stody			America La	boratories, Inc.
		atory Pro					*	34	X Other:					~ -			loco N	TAL-8210 (0713)
Client Contact		anager: 5			5	Site		1000		14		Date:		22.	-15		COC No:	000
Company Name: AECON		503-4				Lab	Cont	act: (Sarah	MO	ron	Carri	er:			1 1	of	_ COCs
Address: 111 Sw Columbia		Analysis T						₹									Sampler:	
City/State/Zip: PorTland, OR, 97206 Phone: 503-408-1623	CALEN	1111		RKING DAY	S		8083.4	0									For Lab Use Only: Walk-in Client:	
Fax:	1	T if different fro				Z	8	0,00									Lab Sampling:	
Project Name: helox			weeks			Z	2	0									Lab Sampling.	
Site: Former Crown Lorks Seal Faculty			week		;	는 le		3		1				1			Job / SDG No.:	
PO#			days day			lple /	In S	Keshcol									00D / 0DO No.:	
			Sample			Filtered Sample (Y/N) Perform MS / MSD (Y/N)	Ze	Z										
			Туре			pa L	2	-5										
Sample Identification	Sample Date	Sample Time	(C=Comp, G=Grab)	Matrix	# of Cont.	ilter	5	Leas									Sample Spe	oifia Notoo:
	2,407,837,407,7	-70.0 (****) N.F		IVIALITA	COIIC.	ഥ	1	٧		-		+	+	-	+-+			3
PB1-01	1-20-15	900	6		- Anna		X										Window G	lare
732-01	ĺ	930	l î				X										Sealer	
732-01 PB3-01		945					X										Flashing So	eales
PB4-01		1000					X	X									Silver Head	Pains
PB5-01		1015			distance and the same of the s		X										Seales SoTua	en brock
P36-01	Ú	1030	U		Ü		X						T				Masnick	
		1000								+							7 10011010	
								_		+		\vdash	+	\perp	\perp	\rightarrow		
Liliand Streets 100																		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3;	5≒NaOH	6=Other				176 N		3733					10 373		SIZE			105.7 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Possible Hazard Identification:						S	ampl	e Dis	sposal (/	A fee	may b	e asse	ssed it	sam	ples a	re retair	ed longer than 1 mo	nth)
Are any samples from a listed EPA Hazardous Waste? Pleas	e List any I	EPA Waste	Codes for	the samp	ole in th	е												
Comments Section if the lab is to dispose of the sample.											4							
Plammable Skin Irritant	Poisor	В	Unkn	own			R	Return	to Client		LX-E	Disposal I	by Lab		/	Archive for	Months	
Special Instructions/QC Requirements & Comments:													1	a	a 10	/in -		
													0	9	3 62	- (P-E	>	
Custody Seals Intact: Yes No	Custody S	eal No.:	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	* * *				(Cooler Te	mp. (°C): Ot	os'd:	470	_ Cor	rr'd:		_ Therm ID No.:	
Relinquished by:	Company:	100		Date/Ti	me:		eceiv	ed b	-				Con	npany	AY	7	Date/Time:	he-
Horas	+	0 ECO1	1	1-224				10	A P	7	1				AT		122/15	6830
Relinquished by:	Company:			Date/Ti	mie:	R	eceiv	ed by	y:				Con	npany	0		Date/Time:	
Delinguished by	Company			Date/Ti	mo.	P	acain	rad in	n Laborato	ony by	·		Con	npany	r-		Date/Time:	
Relinquished by:	Company:			Date/11	me.	K	CUCIV	eu III	Laborati	Jiy Dy			CON	iparry	•		Date/Time.	
	J	Colontal Col		1														W. 1989









Login Sample Receipt Chec ☐ist

Client: AECOM, Inc. Job N□mber: 580-56721-1

Login N□mber: 56721 List So□rce: TestAmerica Seattle

List N□mber: 1

Creator: Svabi □-Seror □ Philip □

orcator. Ovable-octorer minp		
□ □estion	Ans□er	Comment
	N/A	
The coolers c⊡stody seal, i⊡present, is intact.	N/A	
Sample c⊑stody seals, i⊏present, are intact.	N/A	
The cooler or samples do not appear to ha e been compromised or tampered with.	Tr⊑e	
Samples were recei⊑ed on ice.	Tr⊡e	
Cooler Temperat ☐re is acceptable.	Tr⊡e	
Cooler Temperat ☐re is recorded.	Tr⊡e	
COC is present.	Tr⊡e	
COC is tilled o⊑t in ink and le⊡ble.	Tr⊡e	
COC is tilled o⊏t with all pertinent intormation.	Tr⊡e	
Is the Field Sampler s name present on COC□	False	No name.
There are no discrepancies between the containers recei ed and the COC.	Tr⊡e	
Samples are recei ed within □oldin□ Time (excl din□ tests with immediate □Ts)	Tr⊑e	
Sample containers ha⊡e le⊡ble labels.	Tr⊡e	
Containers are not broken or leakin□.	Tr⊡e	
Sample collection date/times are pro⊡ded.	Tr⊡e	
Appropriate sample containers are □sed.	Tr⊡e	
Sample bottles are completely filled.	Tr⊡e	
Sample Preser ation Verified.	N/A	
There is s □ icient □ol. or all re □ ested analyses, incl. any re □ ested MS/MSDs	Tr⊡e	
Containers re □ irin □ □ ero headspace ha □ e no headspace or b □ bble is □ 6mm (1/4 □).	N/A	
M⊟tiphasic samples are not present.	N/A	
Samples do not re⊡ire splittin⊡or compositin⊡	N/A	
□esid □al Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-57213-1

Client Project/Site: Crown Cork and Seal

For:

AECOM, Inc. 111 SW Columbia Street, Suite 1500 Portland, Oregon 97201

Attn: Steve Roberts

Authorized for release by:

Authorized for release by: 2/29/2016 1:29:58 PM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

.....LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM, Inc. Project/Site: Crown Cork and Seal TestAmerica Job ID: 580-57213-1

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Case Narrative

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

TestAmerica Job ID: 580-57213-1

Job ID: 580-5721 □-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were recei do n 2/10/2016 12:05 PM the samples arri din dod condition, properly preser dand, where re dired, on ice. The temperat re o the cooler at receipt was 1.4 dc.

Receipt Exceptions

The Field Sampler was not listed on the Chain o□C□stody.

GC Semi VOA

Method(s) 8082A: The ©llowin□ samples re □rired a tetrab tylammoni □m s □ lite (TBA) clean-□p to red □ce matrix inter erences ca □sed by s □ □r: North Lot Composite (580-57213-1), Field D □P (580-57213-2) and So □th Lot Composite (580-57213-3).

Method(s) 8082A: The ©llowin sample was dil ted d = to color: Field D □ P (580-57213-2). Ele ated reportin limits (□L) are pro ided.

No additional analytical or □ality iss□es were noted, other than those described abo□e or in the Detinitions/□lossary pa□e.

etals

No analytical or □□ality iss□es were noted, other than those described in the Definitions/□lossary pa□e.

General Chemistry

No analytical or □□ality iss□es were noted, other than those described in the Detinitions/□lossary pa□e.

Organic Prep

No analytical or □ality iss es were noted, other than those described in the Definitions/□lossary pa e.

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q

De initions Glossary

Client: AECOM, Inc.

□ □ali iers

DLC

MDA

EDL

MDC

MDL

ML

NC

ND

 $P \square L$

 $\Box C$

□L □PD

TEF

TE□

Project/Site: Crown Cork and Seal

Decision le el concentration

Minim□m detectable acti ity

Minim□m detectable concentration

Toxicity E□□□alent Factor (Dioxin)

Toxicity E□□□alent □□otient (Dioxin)

Not detected at the reportin limit (or MDL or EDL i shown)

□elati □e Percent Di □erence, a meas □re o □the relati □e di □erence between two points

□eportin□ Limit or □e□□ested Limit (□adiochemistry)

Estimated Detection Limit

Method Detection Limit

Minim□m Le el (Dioxin)

Practical □ □antitation Limit

Not Calc ☐ated

□ □ality Control

□elati □e error ratio

TestAmerica Job ID: 580-57213-1

etals □□aliūer □ □ali ier Description 4 MS, MSD: The analyte present in the ori inal sample is reater than 4 times the matrix spike concentration there ore, control limits are not В Compo nd was ond in the blank and sample. **Glossary** Abbreviation These commonly □se □ abbreviations may or may not be present in this report □ Listed □nder the □D□col□mn to desi□nate that the res□t is reported on a dry wei□ht basis Percent □eco□ery CFL Contains Free Li □id **CNF** Contains no Free Li □□id DE□ D□plicate error ratio (normali ed absol te di erence) Dil Fac Dil tion Factor DL, □A, □E, IN Indicates a Dil Ltion, Le-analysis, Le-extraction, or additional Initial metals/anion analysis o Lthe sample

TestAmerica Seattle

Client Sample Res ☐ Its

Client: AECOM, Inc.

Percent □ oist□re

PSR sample generate □

Analyte

Project/Site: Crown Cork and Seal

Date Collecte : 02 0 16 12:00

Date Receive : 02 10 16 12:05

Client Sample ID: North Lot Composite

TestAmerica Job ID: 580-57213-1

Lab Sample ID: 580-5721 □-1

□ atrix: Soli □

Percent Soli ☐s: □□□□

02/22/16 14:50

Analy⊡e□

02/22/16 12:00

Prepare

Analyte	Res⊟lt	□□ali⊡er	RL		□nit	D	Prepare □	Analy⊡e□	Dil □ac
Aroclor-1016	ND		32		□□/K□	<u> </u>	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1221	ND		32		□□/K□	☼	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1232	ND		32		□□/K□	≎	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1242	ND		32		□□/K□		02/23/16 07:32	02/25/16 16:46	1
Aroclor-12□8	160		32		□□/K□	☼	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1254	ND		32		□□/K□	≎	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1260	ND		32		□□/K□		02/23/16 07:32	02/25/16 16:46	1
Aroclor-1262	ND		32		□□/K□	☼	02/23/16 07:32	02/25/16 16:46	1
Aroclor-1268	ND		32		□□/K□	₩	02/23/16 07:32	02/25/16 16:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	38		13 - 134				02/23/16 07:32	02/25/16 16:46	1
DCB Decachlorobiphenyl	39		10 - 155				02/23/16 07:32	02/25/16 16:46	1
- □ etho□: 6020A - □ etals	ICP III S II								
Analyte	Res⊡lt	□ □ali ier	RL	□DL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea	1100		0.50		m□/K□		02/23/16 10:37	02/25/16 21:47	10
General Chemistry									
Analyte	Res□lt	□□aliūer	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli □s			0.1		П			02/22/16 14:50	

0.1

NONE

NONE □nit

NONE

07

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Res⊡lt □ □ali⊡er

□ etho□: Part Si e Re - Particle Si e Re - ction Preparation

Client Sample Res ☐Its

Client: AECOM, Inc.

PSR sample generate □

Project/Site: Crown Cork and Seal

Client Sample ID: □iel □ D □ P

Date Collecte : 02 0 16 12:05

Date Receive : 02 10 16 12:05

TestAmerica Job ID: 580-57213-1

Lab Sample ID: 580-5721 □-2

□ atrix: Soli □

02/22/16 12:00

Percent Soli ☐s: ☐☐2

Analyte	Res⊟lt	□□aliūer	RL		□nit	D	Prepare □	Analy⊡e□	Dil □ac
Aroclor-1016	ND		170		□□/K□	<u>₩</u>	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1221	ND		170		□□/K□	☼	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1232	ND		170		□□/K□	☼	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1242	ND		170		□□/K□		02/23/16 07:32	02/25/16 17:04	5
Aroclor-12□8	□50		170		□□/K□	☼	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1254	ND		170		□□/K□	☼	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1260	ND		170		□□/K□	₩.	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1262	ND		170		□□/K□	☼	02/23/16 07:32	02/25/16 17:04	5
Aroclor-1268	ND		170		□□/K□	₽	02/23/16 07:32	02/25/16 17:04	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		13 - 134				02/23/16 07:32	02/25/16 17:04	5
DCB Decachlorobiphenyl	90		10 - 155				02/23/16 07:32	02/25/16 17:04	5
- □ etho□: 6020A - □ etals	CP. S.								
Analyte	Res□lt	□□aliūer	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea	1_00		0.50		m□/K□	-	02/23/16 10:37	02/25/16 22:07	10
General Chemistry									
Analyte	Res⊡lt	□□ali⊡er	RL	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli □s			0.1					02/22/16 14:50	1
Percent □ oist□re	0.8		0.1					02/22/16 14:50	1
_ □etho□: Part Si□e Re□ - P	article Si⊡e Re⊡	□ction Pre	paration						
Analyte	Res⊓lt	□□aliūer	NONE	NONE	⊓nit	D	Prepare □	Analy□e□	Dil □ac

10

NONE

Client Sample Res ☐Its

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

Date Collecte : 02 0 16 1 00

Date Receive : 02 10 16 12:05

Client Sample ID: So th Lot Composite

TestAmerica Job ID: 580-57213-1

Lab Sample ID: 580-5721 □-□

Lab Sample ID. 560-5721 □-□

Percent Soli ☐s: ☐☐0

Analyte	Res⊡lt	□□ali⊡er	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
Aroclor-1016	ND		34		□□/K□	<u>₩</u>	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1221	ND		34		□□/K□	₩	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1232	ND		34		□□/K□	₩	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1242	ND		34		□□/K□	₩.	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1248	ND		34		□□/K□	₩	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1254	ND		34		□□/K□	☼	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1260	ND		34		□□/K□	₩.	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1262	ND		34		□□/K□	₩	02/23/16 07:32	02/25/16 17:23	1
Aroclor-1268	ND		34		□□/K□	₽	02/23/16 07:32	02/25/16 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	65		13 - 134				02/23/16 07:32	02/25/16 17:23	1
DCB Decachlorobiphenyl	47		10 - 155				02/23/16 07:32	02/25/16 17:23	1
□ etho□: 6020A - □ etals	ICP III S II								
Analyte	Res⊡lt	□□ali⊡er	RL		□nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea	81		0.51		m□/K□	-	02/23/16 10:37	02/25/16 22:11	10
General Chemistry									
Analyte	Res⊡lt	□□aliūer	RL _	RL	□nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli ☐s			0.1					02/22/16 14:50	1
Percent □ oist□re	10		0.1					02/22/16 14:50	1
□ etho □: Part Si □e Re □ - F									
Analyte	Res⊡lt	□□aliūer	NONE	NONE	□nit	D	Prepare□	Analy⊡e□	Dil □ac
PSR sample generate □	10				NONE			02/22/16 12:00	1

Client Sample Res ☐lts

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

Client Sample ID: RR □ allast

TestAmerica Job ID: 580-57213-1

Lab Sample ID: 580-5721 □-□

□ atrix: Soli □

Date Collecte : 02 0 16 12:15 Date Receive : 02 10 16 12:05

General Chemistry Analyte	Res⊡t □□ali∷ier	RL	RL □nit	D	Prepare□	Analy⊡e□	Dil □ac
Percent Soli □s		0.1				02/15/16 09:08	1
Percent □ oist□re	0 🖽	0.1				02/15/16 09:08	1

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Client Sample Res ☐Its

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

TestAmerica Job ID: 580-57213-1

Client Sample ID: RR □ allast **Lab Sample ID: 580-5721** □-□ □ atrix: Soli□

Date Collecte : 02 0 16 12:15

Date Receive : 02 10 16 12:05 Percent Soli ☐s: ☐☐1

□ etho □: 6020A - □ etals	S						
Analyte	Res⊟lt □ □ali⊡er	RL	□ DL □nit	D	Prepare□	Analy⊡e□	Dil □ac
Lea	21 🗆	0.15	m□/K□	₩	02/16/16 12:13	02/17/16 19:07	2

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Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

Analysis □atch: 21 □1 □1

Analyte

Lead

TestAmerica Job ID: 580-57213-1

□ etho □: 8082A - Polychlorinate □ □iphenyls □PC □s □by Gas Chromatography Lab Sample ID: □ □ 2 □ 0-2185 □ □ 2 □-A Client Sample ID: □etho□□lan□ □ atrix: Soli □ Prep Type: Total NA Analysis □atch: 218 □ 8 Prep □atch: 2185□□ Analyte Res⊟lt □ □ali⊡er RL □DL □nit **Prepare** □ Analy **□**e □ Dil □ac 33 Aroclor-1016 $\overline{\mathsf{ND}}$ □□/K□ 02/23/16 07:32 02/25/16 10:59 Aroclor-1221 ND 33 02/23/16 07:32 02/25/16 10:59 □□/K□ 1 ND Aroclor-1232 33 02/23/16 07:32 02/25/16 10:59 Aroclor-1242 33 02/23/16 07:32 02/25/16 10:59 ND □□/K□ Aroclor-1248 ND 33 $\Box\Box$ /K \Box 02/23/16 07:32 02/25/16 10:59 Aroclor-1254 ND 33 □□/K□ 02/23/16 07:32 02/25/16 10:59 Aroclor-1260 ND 33 □□/K□ 02/23/16 07:32 02/25/16 10:59 Aroclor-1262 ND 33 □□/K□ 02/23/16 07:32 02/25/16 10:59 Aroclor-1268 ND 33 □□/K□ 02/23/16 07:32 02/25/16 10:59 %Recovery Qualifier Surrogate Limits Prepared Analyzed Dil Fac Tetrachloro-m-xylene 75 13 - 134 02/23/16 07:32 02/25/16 10:59 89 DCB Decachlorobiphenyl 10 _ 155 02/23/16 07:32 02/25/16 10:59 Lab Sample ID: LCS 2 0-2185 2 -A **Client Sample ID: Lab Control Sample** □ atrix: Soli □ Prep Type: Total NA Analysis □atch: 218□8 Prep □atch: 2185 □□ LCS LCS Spi⊡e □Rec□ Analyte A□□e□ Res⊟lt □□ali⊡er □nit Rec Limits D □□/K□ Aroclor-1016 333 274 82 51 - 120 Aroclor-1260 333 284 □□/K□ 85 48 - 120 LOS LOS Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 81 13 - 134 DCB Decachlorobiphenyl 87 10 - 155 Lab Sample ID: □ □ 2 □ 0-217656 □ - A □ 2 Client Sample ID: ☐ etho☐ ☐ lan☐ □ atrix: Soli □ Prep Type: Total NA Analysis □atch: 2178 □7 **Prep** □atch: 217656 RL Analyte Res ☐lt ☐ ☐ali ☐er □nit Prepare -Analy □e □ Dil ⊓ac Lead 0.265 0.20 m□/K□ 02/16/16 12:13 02/17/16 17:58 Lab Sample ID: LCS 2 0-217656 -A 2 Client Sample ID: Lab Control Sample Prep Type: Total NA □ atrix: Soli □ Analysis □atch: 2178 □7 **Prep** □atch: 217656 Spi⊑e LCS LCS □Rec□ Analyte A□□e□ Res lt □ □ali ier □nit Rec Limits D 100 96.5 96 m□/K□ 75 - 110 Lead **Lab Sample ID:** □ □ **2** □ **0-21865** □ **1-A** □ **5** Client Sample ID: □etho□□lan□ □ atrix: Soli □ Prep Type: Total NA

TestAmerica Seattle

Prep □atch: 21865□

Analy **□**e □

Prepare -

02/23/16 10:37 02/25/16 21:31

RL

0.25

□ DL □nit

m□/K□

Res ☐lt ☐ ☐ali ☐er

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Dil □ac

□C Sample Res □Its

Client: AECOM, Inc.

TestAmerica Job ID: 580-57213-1

Project/Site: Crown Cork and Seal

Lab Sample ID: 580-5721 □-1 □ **SD**

Lab Sample ID: LCS 2□0-21865□2-A □5 □ atrix: Soli□ Analysis □atch: 21 □1 □1	Spi⊏e	1.09	LCS	Clier	it Sai	mple ID	Prep Type: Total NA Prep atch: 21865
	•	_			_		
Analyte	A□□e□	Res⊔it	□□ali∃er	□nit	ט	□Rec	Limits
Lead	50.0	52.0		m□/K□		104	75 - 110
Lab Sample ID: 580-5721 □-1 □ S				Client	Sam	ple ID:	North Lot Composite

Lab Sample ID: 580-5721 □-1 □ S □ atrix: Soli □ Analysis □atch: 21 □1 □1						Client	Sam	ple ID:	D: North Lot Composite Prep Type: Total NA Prep □atch: 21865□		
	Sample	Sample	Spi⊡e	□S	□S				□Rec□		
Analyte Lead	Res□lt 1100	□□aliūer	A □ e □ 50.3	Res □ It 1070	□ □ali⊓er 4	□nit m□/K□	_ D	□ Rec -81	Limits 75 - 125		

□ atrix: Soli□ Analysis □atch: 21□1□1									Prep Typ Prep □a		
	Sample	Sample	Spi⊡e	□SD	□SD				□Rec□		RPD
Analyte	Res⊟t	□□ali⊡er	A□□e□	Res⊡t	□□ali⊡er	□nit	D	□Rec	Limits	RPD	Limit
Lead	1100		50.4	1170	4	m□/K□	₩	107	75 - 125	8	20

2

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Client Sample ID: North Lot Composite

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

Client Sample ID: North Lot Composite

Lab Sample ID: 580-5721 □-1 Date Collecte : 02 0 16 12:00

□ atrix: Soli □

Date Receive : 02 10 16 12:05

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	D□J	TAL CAN
Total/NA	Analysis	Moist⊏re		1	218514	02/22/16 14:50	BLW	TAL CAN
Total/NA	Analysis	Part Si⊡e □ed		1	218660	02/22/16 12:00	□B1	TAL CAN

Client Sample ID: North Lot Composite Lab Sample ID: 580-5721 □-1

Date Collecte : 02 0 16 12:00 □ atrix: Soli □ Date Receive : 02 10 16 12:05 Percent Soli s:

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep	_		218540	02/19/16 15:00	D□J	TAL CAN
Total/NA	Prep	3540C			218599	02/23/16 07:32	$\square DN$	TAL CAN
Total/NA	Analysis	8082A		1	218948	02/25/16 16:46	LS□	TAL CAN
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	$D\squareJ$	TAL CAN
Total/NA	Prep	3050B			218653	02/23/16 10:37	WKD	TAL CAN
Total/NA	Analysis	6020A		10	219191	02/25/16 21:47	AS1	TAL CAN

Client Sample ID: □iel□ D□P **Lab Sample ID: 580-5721** □-2

Date Collecte : 02 0 16 12:05 Date Receive : 02 10 16 12:05

□ atrix: Soli □

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	D□J	TAL CAN
Total/NA	Analysis	Moist⊡re		1	218514	02/22/16 14:50	BLW	TAL CAN
Total/NA	Analysis	Part Si⊡e □ed		1	218660	02/22/16 12:00	□B1	TAL CAN

Client Sample ID: □iel □ D □ P Lab Sample ID: 580-5721 □-2

Date Collecte : 02 0 16 12:05 □ atrix: Soli □ Date Receive : 02 10 16 12:05 Percent Soli ☐s: ☐☐2

_	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	D□J	TAL CAN
Total/NA	Prep	3540C			218599	02/23/16 07:32	$\square DN$	TAL CAN
Total/NA	Analysis	8082A		5	218948	02/25/16 17:04	LS□	TAL CAN
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	$D\squareJ$	TAL CAN
Total/NA	Prep	3050B			218653	02/23/16 10:37	WKD	TAL CAN
Total/NA	Analysis	6020A		10	219191	02/25/16 22:07	AS1	TAL CAN

Client Sample ID: So th Lot Composite **Lab Sample ID: 580-5721** □-□

Date Collecte : 02 0 16 1 00

□ atrix: Soli □

Date Receive : 02 10 16 12:05

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	D□J	TAL CAN

TestAmerica Seattle

Lab Sample ID: 580-5721 □-□

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

Client Sample ID: So th Lot Composite

Date Collecte : 02 0 16 1:00

Date Receive : 02 10 16 12:05

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Analysis	Moist⊑re		1	218514	02/22/16 14:50	BLW	TAL CAN
Total/NA	Analysis	Part Si⊑e □ed		1	218660	02/22/16 12:00	□B1	TAL CAN

Client Sample ID: So th Lot Composite

Date Collecte : 02 0 16 1:00

Date Receive : 02 10 16 12:05

Lab	Sample	ID:	580-5721 □-□

□ atrix: Soli □ Percent Soli ☐s: ☐☐0

□ atrix: Soli □

□ atrix: Soli □

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	D□J	TAL CAN
Total/NA	Prep	3540C			218599	02/23/16 07:32	□DN	TAL CAN
Total/NA	Analysis	8082A		1	218948	02/25/16 17:23	LS□	TAL CAN
Total/NA	ISM Prep	Increment, Prep			218540	02/19/16 15:00	$D\squareJ$	TAL CAN
Total/NA	Prep	3050B			218653	02/23/16 10:37	WKD	TAL CAN
Total/NA	Analysis	6020A		10	219191	02/25/16 22:11	AS1	TAL CAN

Client Sample ID: RR □allast

Date Collecte : 02 0 116 12:15

Date Receive : 02 10 16 12:05

	□atch	□atch		Dil⊡tion	□atch	Prepare □			
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab	
Total/NA	Analysis	Moist□re			217463	02/15/16 09:08	BLW	TAL CAN	

Client Sample ID: RR □ allast

Date Collecte : 02 0 16 12:15

Date Receive : 02 10 16 12:05

Lab Sample ID: 580-5721 □-	Lab	Sample	ID:	580-5721	- [
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Lab Sample ID: 580-5721 □-□

□ atrix: Soli □ Percent Soli ☐s: ☐☐1

	□atch	□atch		Dil⊡tion	□atch	Prepare□		
Prep Type	Type	□etho□	R□n	□actor	N□mber	or Analy⊡e □	Analyst	Lab
Total/NA	Prep	3050B			217656	02/16/16 12:13	DEE	TAL CAN
Total/NA	Analysis	6020A		2	217847	02/17/16 19:07	AS1	TAL CAN

Laboratory Re erences:

TAL CAN = TestAmerica Canton, 4101 Sh ☐el Street NW, North Canton, O ☐ 44720, TEL (330)497-9396

Certi dication S mmary

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

TestAmerica Job ID: 580-57213-1

Laboratory: TestAmerica Seattle

The certifications listed below are applicable to this report.

A⊑thority	Program	EPA Region	Certi⊡cation ID	Expiration Date
Washin⊡ton	State Pro⊡ram	10	C553	02-17-17

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

_ A⊡thority	Program	EPA Region	Certi⊡cation ID	Expiration Date
Caliornia	NELAP	9	01144CA	06-30-14 🗆
Cali ornia	State Pro□ram	9	2927	04-30-17
Connectic⊡t	State Pro□ram	1	P□-0590	12-31-17
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 🗆
Kent⊡cky (□ST)	State Pro⊡ram	4	58	02-26-16 🗆
Kent⊑cky (WW)	State Pro□ram	4	98016	12-31-16
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-16
Ne⊑ada	State Pro□ram	9	O -000482008A	07-31-16
New Jersey	NELAP	2	O□001	06-30-16
New □ork	NELAP	2	10975	03-31-16 🗆
Ohio VAP	State Pro□ram	5	CL0024	09-14-17
Ore⊡on	NELAP	10	4062	02-23-16 🗆
Pennsyl⊡ania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
□SDA	Federal		P330-13-00319	11-26-16
Vir⊑inia	NELAP	3	460175	09-14-16
Washin⊡ton	State Pro⊑ram	10	C971	01-12-17
West Vir⊡nia DEP	State Pro⊏ram	3	210	12-31-15 🗆
Wisconsin	State Pro⊡ram	5	999518190	08-31-16

□Certification renewal pendin □ - certification considered □alid.

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Sample S□mmary

Client: AECOM, Inc.

Project/Site: Crown Cork and Seal

TestAmerica Job ID: 580-57213-1

Lab Sample ID	Client Sample ID	□atrix	Collecte□	Receive□
580-57213-1	North Lot Composite	Solid	02/09/16 12:00	02/10/16 12:05
580-57213-2	Field D□P	Solid	02/09/16 12:05	02/10/16 12:05
580-57213-3	So⊡th Lot Composite	Solid	02/09/16 14:00	02/10/16 12:05
580-57213-4	□□ Ballast	Solid	02/09/16 12:15	02/10/16 12:05

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TestAmerica Portland

9405 SW Nimbus Avenue

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2/29/2016

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

Beaverton, OR 97008-7145 TestAmerica Laboratories, Inc. phone 503,906,9200 fax 503,906,9210 Regulatory Program: DW NPDES RCRA Other: COC No: Project Manager: Steve Roberts Date: 2/10/16 Site Contact: **Client Contact** COCs Lab Contact: Sarah Murphy Carrier: AECOM Tel/Fax: 503-478-1623 111 SW Columbia **Analysis Turnaround Time** Sampler: For Lab Use Only: CALENDAR DAYS WORKING DAYS Portland, OR 97201 'alk-in Client: 503-222-7200 Phone TAT if different from Below ab Sampling: (xxx) xxx-xxxx FAX 1 2 weeks Project Name: Crown Cork and Seal 1 week Total PCBs (8082A) Total Lead (6020A) b / SDG No .: 2 days Quote # 58009514 1 day Sample Type Sample Sample (C=Comp, Sample Identification Date Time G=Grab) Matrix Cont. Sample Specific Notes: 2/9/2016 North Lot Composite 1200 C Asphalt ISM Procedure 1205 C 1 2/9/2016 Field DUP Asphalt ISM Procedure 1400 C 1 South Lot Composite 2/9/2016 Asphalt ISM Procedure Page 1215 G Ballast 1 2/9/2016 RR Ballast Preservation Used: 4-ice, 2-HCl: 3-H2SO4, 4-HN03; 5-NaOH; 6-Other Possible Hazard Identification: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. ✓ Non-Hazard Poison B Unknown Flammable Return to Client Special Instructions/QC Requirements & Comments: Cooler Temp (°C): Obs'd: Corr'd: Therm ID No .: Custody Seal No .: Custody Seals Intact: Relinquished by: Company: Date/Time: 2-10-16/100 Company: M.E. 1100 Date/Time/205 Company: Relinquished by: 1203 Received in Laboratory by: Relinguished by: Company: Company:

Form No. CA-C-WI-002, Rev. 4.9, dated 2/2/2016



___ TestAmerica Laboratories, Inc. __

CHAIN OF CUSTODY AND **RECEIVING DOCUMENTS**



TestAmerica Portland

9405 SW Nimbus Avenue

2.4161.9

Chain of Custody Record

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

Beaverton, OR 97008-7145 TestAmerica Laboratories, Inc. Regulatory Program: DW NPDES RCRA Other: phone 503.906.9200 fax 503.906.9210 COC No: Site Contact: Date: 2/10/16 Project Manager: Steve Roberts **Client Contact** COCs Carrier: Tel/Fax: 503-478-1623 Lab Contact: Sarah Murphy AECOM **Analysis Turnaround Time** Sampler: 111 SW Columbia For Lab Use Only: **WORKING DAYS** CALENDAR DAYS Portland, OR 97201 'alk-in Client: 503-222-7200 Phone TAT if different from Below ab Sampling: (xxx) xxx-xxxx FAX 4 2 weeks Project Name: Crown Cork and Seal 1 week Total PCBs (8082A) Total Lead (6020A) b / SDG No .: 2 days Quote # 58009514 1 day Sample Type Sample Sample # of (C=Comp Sample Identification Date Time G=Grab) Matrix Cont. Sample Specific Notes: 1200 C SM Procedure North Lot Composite 2/9/2016 Asphalt 1205 C 2/9/2016 Asphalt SM Procedure Field DUP 1400 C 1 ISM Procedure South Lot Composite 2/9/2016 Asphalt 1215 G Ballast **RR** Ballast 2/9/2016 Preservation Used: 1= lce, 2= HCI, 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Possible Hazard Identification: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. Non-Hazard Skin Irritant Poison B Unknown Flammable Return to Client Disposal by Lab Archive for Special Instructions/QC Requirements & Comments: Custody Seal No .: Cooler Temp (°C): Obs'd: Custody Seals Intact: Yes Corr'd: Therm ID No .: Date/Time: 2-10-16 /1100 Company: M.E. Relinguished by 1100 Relinquished by Company: ME Date/Time: 2-12-16 945

Form No. CA-C-WI-002, Rev. 4.9, dated 2/2/2016





















TestAmerica Canton Sample Receipt Form/Narrative Canton Facility	in#: 580-57213
Client Accom Site Name_	Cooler unpacked by:
Cooler Received on 2-12-16 Opened on 2-12-16	to
FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier	Other
Receipt After-hours: Drop-off Date/Time Storage Location	Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other COOLANT: Wet Ice Blue Ice Dry Ice Water None	
1. Cooler temperature upon receipt ————————————————————————————————————	orm mio
IR GUN# 48 (CF -1.9 °C) Observed Cooler Temp. °C Corrected Cooler T IR GUN# 36 (CF -1.5 °C) Observed Cooler Temp. °C Corrected Cooler T IR GUN# I8 (CF -0.5 °C) Observed Cooler Temp. °C Corrected Cooler T IR GUN# I8 (CF -0.5 °C) Observed Cooler Temp. °C Corrected Cooler T IR GUN# I8 (CF -0.5 °C) Observed Cooler Temp. °C Corrected Cooler T Coole	emp°C emp
The state of the s	s (No
	s No
Contacted PM Date by via Verbal \	Voice Mail Other
Concerning	
17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
18. SAMPLE CONDITION Sample(s) Were received after the recommended hold	ing time had evnired
Sample(s) were received after the recommended hold	Ing time had expired. I in a broken container.
Sample(s) were received with bubble >6 mm i	
MCTO TOOLIACH MITH DHING SO HINT I	II CITEDIO COL. IL NOLLI VILIVILI IVIII

Ref: SOP NC-SC-0005, Sample Receiving
L:\QAQC\QA Department\QA TARDIS\Document Control\Work Instructions\WI-NC-099X-011816 Cooler Receipt Form.doc djl

_were further preserved in the laboratory.

Preservative(s) added/Lot number(s):

19. SAMPLE PRESERVATION

Sample(s) ______ Time preserved:

TestAmerica Portland

9405 SW Nimbus Avenue

2.41(1.9

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

Beaverton OR 97008-7145

phone 503,906,9200 fax 503,906,9210	Regul	atory Pro	gram:	DW 🗌	NPDE	S	R	CRA		Other:				İ						ŀ	TestAmerica La	boratories, Inc.
Client Contact		7/2/20	eve Robert			7	Cont				- V. V.	I	Date: 2/10/16			GOC No:						
AECOM	<u> </u>	03-478-162				-				Murph	ıv		Carrier:			of COCs						
111 SW Columbia			urnaround	Time						T	Ť	П	\Box	T	Т						Sampler:	
Portland, OR 97201		ENDAR DAYS		ORKING DAY	rs	11	1				1	1 1	- 1	1	l	1	}	. 1	1	1	For Lab Use Only:	
503-222-7200 Phone	TA	AT if different f	rom Below			1 2				: IIIIII				IIIII							'alk-in Client:	
(XXX) XXX-XXXX FAX	Į.		2 weeks			2	:							Ш				0.0			up Sampling:	
Project Name: Crown Cork and Seal			1 week			1	18	2	1	-								1		Ì	Í	
Site:			2 days			e le	082	(6020A)										-			b / SDG No.:	
Quote # 58009514			1 day			E	Total PCBs (8082A)	9)		580-5	7213	Chai	in of	Cust	ody							
			Sample		-	ed Sg	8	Lead		١.										1.		
	Sample	Sample	Type (C=Comp,		# of	ere 5	a E	al				1 1									İ	
Sample Identification	Date	Time	G=Grab)	Matrix	Cont.	Filtere		Total													Sample Spec	cific Notes:
															1			7		T		
North Lot Composite	2/9/2016	1200	C	Asphalt		4-1-	X	X	\vdash		-	+	-		+	+-	-			-	ISM Procedure	
Field DUP	2/9/2016	1205	С	Asphalt	1	Ш	х_	х				igspace		Ш	\perp	1				1	ISM Procedure	
South Lot Composite	2/9/2016	1400	С	Asphalt	1		х	х										2		1	ISM Procedure	
D AR Ballast	2/9/2016	1215	G	Ballast	1			x													1	
												П								i		
						Ħ	\dagger			11	\top	$\dagger \dagger$	\dashv		\top	1				T	Ti Ti	
5						$\dagger \dagger$	+	\vdash	\dagger	++	+-	T	_		+	+-	+				(! 	
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		ļ <u>.</u>				+	+		\vdash	+	+	+	-	-	+	+	-			1		
						++	+	_	-	++	-	-	_	4		-	_	-		L	1:	
						\coprod	\perp					\perp	\perp			1				I.		
																		1			1	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=	NaOH; 6= 0	Other	Bulletini	a jakalika		Was S	3 43	i Witt		· 特特· 2	a të	i 1. j-	L-1.	782 T	<i>j</i> i (.)	v .).	. E.	Syc	1,61	Gar .	wak e daaren	Burka Stoy S
Possible Hazard Identification:						5	Samp	le D	ispos	al (A fe	e ma	y be	asse	sse	d if s	amp	les	are r	etai	nec	l longer than 1 mon	ith)
Are any samples from a listed EPA Hazardous Waste? Please I	ist any EPA	A Waste Co	des for the	sample ir	the	- 1												2			ľ	
Comments Section if the lab is to dispose of the sample. Non-Hazard	Pol	ron B	(T) Us	known		-			terms to	Clinat								1	L	F	M	
Special Instructions/QC Requirements & Comments:	I POI	SOII D		KNOWN				Re	turn to	Client		J	Dispos	sal by	Lab			Ar	chive	ror_	Months	
													-	4	,	Rl	0-	8			11	
•			!										L	, –	1	n	1					
Custody Seals Intact: Yes No	Custody S								Cool	er Temp	(°C): Obs	s'd:			Cor	r'd:_				Therm ID No.:	
Relinquished by:	Company	DECC	N	Date/Tir	ne: / 1	النالا	Rece	And d	by:	11	W	+		C	Comp	any			v 150	Ï	Daje/Time: 11	00
Relinquished by:	Company	1:	1	Date/Tir	ne:////	25	A P	Waa a	by.	n- U	V	1				77			52 <u>,</u>		D-1-8701	205
Relinguish (A)	Commany	· <u>. </u>	0/	Pate/Ti	1/6 0e:	-	Rece	Ved Ved	inLab	oratory	by:	11				pany:		,		1		
10X 111. //W	Company		-2/1	IXK L	50°				1		>				7	-cA	-	-			Date/Time: 2-12-16	945
Ø 5		100	()															Fori	m N	o. C	CA-C-WI-002, Rev. 4	.9, dated 2/2/2016





















TestAmerica Canton Sample Receipt Form/Narrative	Login#: 580-57-213
Canton Facility	
Client Attom Site Name	Cooler unpacked by:
Cooler Received on 212-16 Opened on 2-12-16	
FedEx: 1st Grd (Exp UPS FAS Stetson Client Drop Off TestAmerica	Courier Other
Receipt After-hours: Drop-off Date/Time Storage L	ocation
TestAmerica Cooler # Foam Box Client Cooler Box C	Other
Packing material used: Bubble Wrap Foam Plastic Bag None C	Other:
COOLANT: Wet loe Blue Ice Dry Ice Water None	
1. Cooler temperature upon receipt	- Cooler Form
IR GUN# 48 (CF -1.9 °C) Observed Cooler Temp °C Corrected	
IR GUN# 36 (CF -1.5 °C) Observed Cooler Temp. °C Corrected Cooler Temp.	Cooler Temp°C
IR GUN# 18 (CF -0.5 °C) Observed Cooler Temp. 2-4 °C Corrected	Cooler Temp. 1.9 °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1	
-Were custody seals on the outside of the cooler(s) signed & dated?	Ces No NA
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes 🔞
3. Shippers' packing slip attached to the cooler(s)?	Yes No
4. Did custody papers accompany the sample(s)?	Yes No
5. Were the custody papers relinquished & signed in the appropriate place?	Ye No
6. Was/were the person(s) who collected the samples clearly identified on the COC	C? Yes (10)
7. Did all bottles arrive in good condition (Unbroken)?	Yes No
8. Could all bottle labels be reconciled with the COC?	Yes No
9. Were correct bottle(s) used for the test(s) indicated?	Ces No
10. Sufficient quantity received to perform indicated analyses?	(Ps No
11. Are these work share samples?	Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.	
12. Were sample(s) at the correct pH upon receipt?	Yes No (NA) pH Strip Lot# HC559158
13. Were VOAs on the COC?	Yes (No
14. Were air bubbles >6 mm in any VOA vials?	Yes No (IA)
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes (No)
16. Was a LL Hg or Me Hg trip blank present?	Yes No
16. Was a LL Hg or Me Hg trip blank present?	Verbal Voice Mail Other
Concerning	
17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
18. SAMPLE CONDITION	1
Sample(s) were received after the recommend	
	received in a broken container.
Sample(s) were received with bubble	>6 mm in diameter. (Notify PM)
19. SAMPLE PRESERVATION	
Sample(s)	were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):	

Client: AECOM, Inc.

Job N□mber: 580-57213-1

Login N□mber: 5721□ List So□rce: TestAmerica Seattle

List N□mber: 1

Creator: Svabi □-Seror □ Philip □

□□estion	Ans□er	Comment
		Comment
□adioacti⊡ty wasntichecked or is □/= back□ro□nd as meas□red by a s□r□ey meter.	N/A	
The cooler's c⊑stody seal, i□present, is intact.	N/A	
Sample c⊡stody seals, i⊡present, are intact.	N/A	
The cooler or samples do not appear to ha e been compromised or tampered with.	Tr⊡e	
Samples were recei⊡ed on ice.	Tr□e	
Cooler Temperat⊡re is acceptable.	Tr□e	
Cooler Temperat⊡re is recorded.	Tr⊑e	
COC is present.	Tr⊑e	
COC is tilled o⊏t in ink and le⊏ible.	Tr⊡e	
COC is tilled ott with all pertinent intormation.	Tr□e	
Is the Field Sampler's name present on COC□	False	No name.
There are no discrepancies between the containers recei⊡ed and the COC.	Tr⊡e	
Samples are recei ed within □oldin□ Time (excl din□ tests with immediate □Ts)	Tr⊑e	
Sample containers ha e le ible labels.	Tr□e	
Containers are not broken or leakin□	Tr□e	
Sample collection date/times are pro⊡ded.	Tr⊑e	
Appropriate sample containers are □sed.	Tr⊑e	
Sample bottles are completely illed.	Tr⊡e	
Sample Preser⊑ation Veriûed.	N/A	
There is s□□icient □ol. □or all re□□ested analyses, incl. any re□□ested MS/MSDs	Tr⊑e	
Containers re □ irin □ □ ero headspace ha □ e no headspace or b □ bble is □ 6mm (1/4 □).	N/A	
M⊟tiphasic samples are not present.	N/A	
Samples do not re⊡ire splittin□or compositin□	N/A	
□esid al Chlorine Checked.	N/A	

TestAmerica Seattle